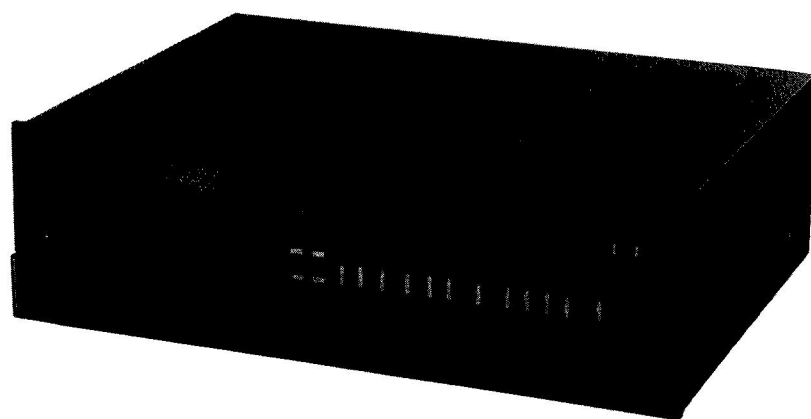


# Service Manual

Cassette Deck  
**RS-M95**  
 (Black Face)

Quartz Phase Locked Direct-Drive Cassette Deck with  
 Microprocessor Tape Tension Control, New 3 Head System



**Professional Series**

This is the Service Manual for the following areas.

- Ⓓ ..... For All European areas except United Kingdom.
- Ⓑ ..... For United Kingdom.
- Ⓐ ..... For Australia.

## RS-M85 MECHANISM SERIES

### Specifications

Track system:	4-track 2-channel stereo recording and playback	Inputs:	MIC; sensitivity 0.25 mV, input impedance 10 kΩ
Tape speed:	4.8 cm/s		applicable microphone impedance 400Ω—10 kΩ
Wow and flutter:	0.03% (WRMS), ±0.09% (DIN)	Outputs:	LINE; sensitivity 60 mV, input impedance 60 kΩ
Frequency response: Metal tape;	20—20,000 Hz		LINE; output level 650 mV, output impedance 6 kΩ or less, load impedance 20 kΩ over
	20—20,000 Hz (DIN)		HEADPHONE; output level 88 mV, load impedance 8Ω
	20—20,000 Hz ±3 dB	Bias frequency:	85 kHz
(0 VU)	20—13,000 Hz ±3 dB	Motor:	2-motor system
CrO <sub>2</sub> /Fe-Cr tape;	20—20,000 Hz		Capstan; 1-quartz control phase-locked DC brushless direct-drive motor
	20—19,000 Hz (DIN)		Reel table; 1-DC coreless motor
	20—19,000 Hz ±3 dB	Heads:	3-head system
Normal tape;	20—18,000 Hz		2-HPF heads for rec/playback (combination type)
	20—17,000 Hz (DIN)		1-sensist/ferrite double-gap head for erasure
	20—17,000 Hz ±3 dB	Power requirements:	AC; 110/125/220/240 V, 50-60 Hz
Signal-to-noise ratio: Dolby <sup>®</sup> NR in; 70 dB (above 5 kHz)		Power consumption:	46 W (50 W for England and Australia)
Dolby NR out; 60 dB		Dimensions:	45 cm(W) × 14.2 cm(H) × 34.8 cm(D)
(signal level = max. recording level, Fe-Cr/CrO <sub>2</sub> type tape)		Weight:	12 kg
Fast forward and			
rewind time: Approx. 80 seconds with C-60 cassette tape			

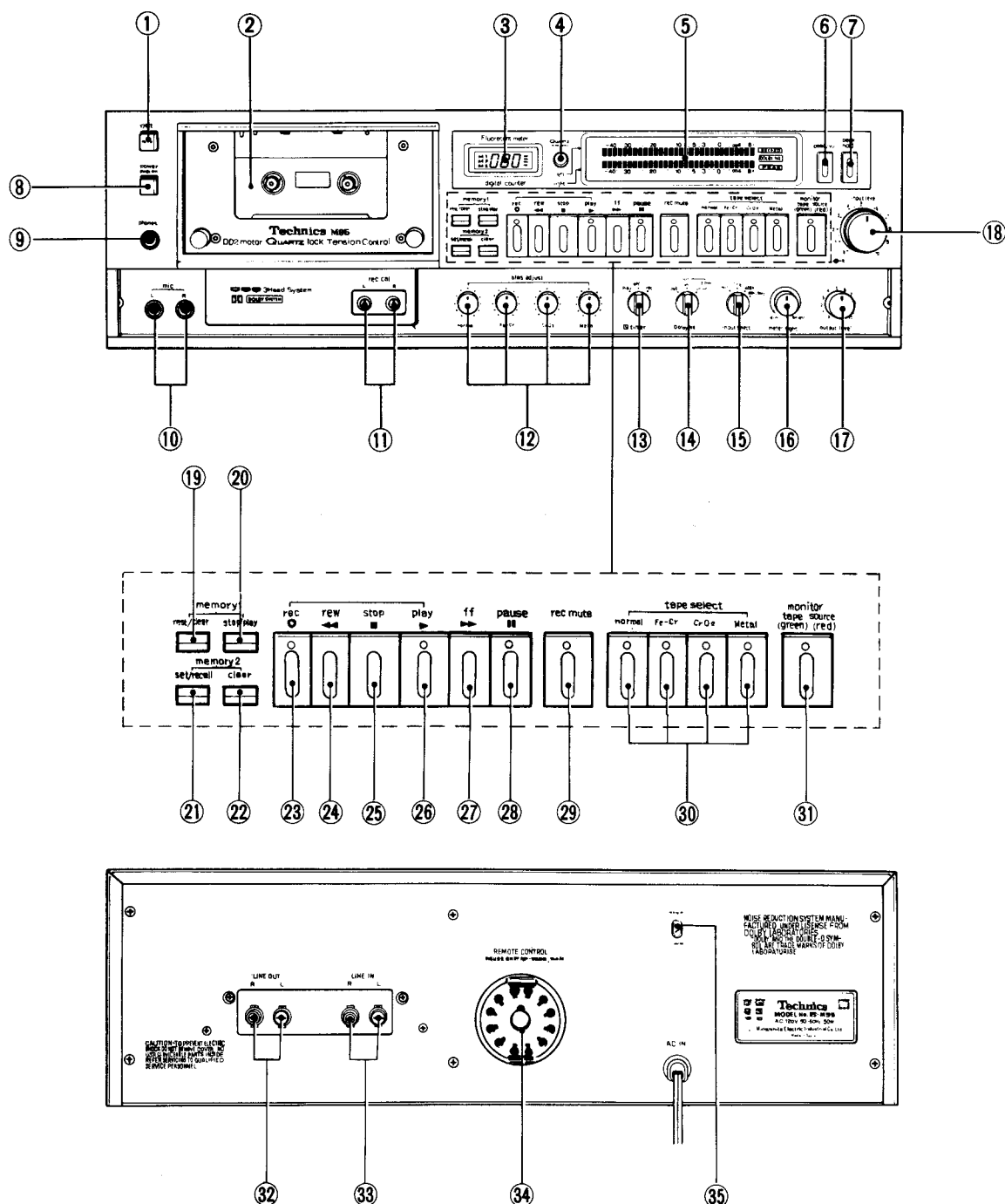
Specifications are subject to change without notice.

\* 'Dolby' and the double-D symbol are trademarks of Dolby Laboratories.

# Technics

**Matsushita Electric Trading Co., Ltd.**  
 P.O. Box 288, Central Osaka Japan

# LOCATION OF CONTROLS AND COMPONENTS


**Fig. 1**

- |                                  |  |   |
|----------------------------------|--|---|
| ① Eject button                   | ⑬ Timer operation selector                 | ⑲ Memory-1 reset/clear button                     |
| ② Cassette compartment door      | ⑭ Dolby noise-reduction selector           | ⑳ Memory-1 stop/play button                       |
| ③ Digital tape counter           | ⑮ Input selector                           | ㉑ Memory-2 set/recall button                      |
| ④ Quartz strobo                  | ⑯ Meter-brightness control                 | ㉒ Memory-2 clear button                           |
| ⑤ Fluorescent level meter        | ⑰ Output-level control                     | ㉓ Record button and record-indication lamp        |
| ⑥ Peak/VU selector               | ⑱ Input-level controls                     | ㉔ Rewind button                                   |
| ⑦ Peak-hold selector             | ㉕ Stop button                              |   |
| ⑧ Power switch                   | ⑲ Memory-1 reset/clear button              | ㉖ Playback button and playback-indication lamp    |
| ⑨ Headphones connection jack     | ㉑ Memory-2 set/recall button               | ㉗ Fast forward button                             |
| ⑩ Microphone connection jacks    | ㉒ Memory-2 clear button                    | ㉘ Pause button and pause-indication lamp          |
| ⑪ Recording-calibration controls | ㉓ Record button and record-indication lamp | ㉙ Record-muting button and muting-indication lamp |
| ⑫ Bias controls                  | ㉔ Rewind button                            | ㉚ Tape selectors and tape-indication lamps        |
|                                  |  | ㉛ Monitor selector and LED monitor indicator      |
|                                  |  | ㉜ Line-output connection jacks                    |
|                                  |  | ㉝ Line-input connection jacks                     |
|                                  |  | ㉞ Remote-control connector                        |
|                                  |  | ㉟ Voltage selector                                |

# DISASSEMBLY INSTRUCTIONS

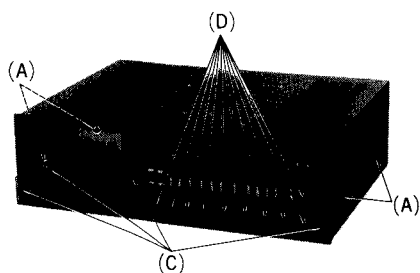


Fig. 2

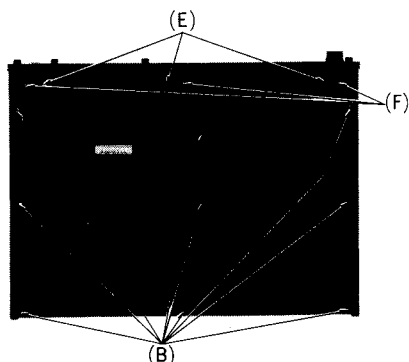


Fig. 3

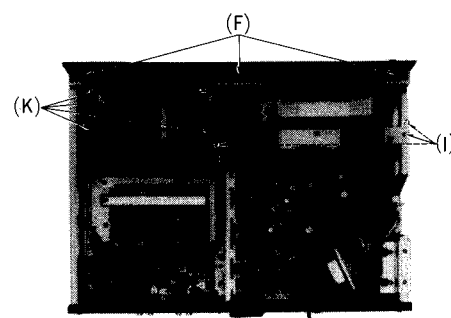


Fig. 4

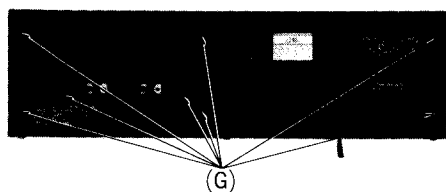


Fig. 5

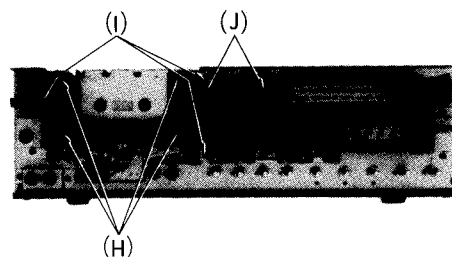


Fig. 6

Procedure	To remove — .	Remove — .	Shown in fig. — .
1	Case cover	• 4 black screws .....(A)	2
2	Bottom cover	• 9 red screws .....(B)	3
3	Front panel	• 4 screws .....(C)	2
		• 10 control knobs .....(D)	2
		• 3 screws .....(E)	3
		• 6 black screws .....(F)	3, 4
4	Back cover	• 8 black screws .....(G)	5
5	Cassette lid	• 4 black screws .....(H)	6
6	Mechanism	• 6 screws .....(I)	4, 6
7	Tape counter	• 2 counter holders .....(J)	6
8	FL level meter	• 4 screws .....(K)	4

## CIRCUIT BOARDS LOCATION

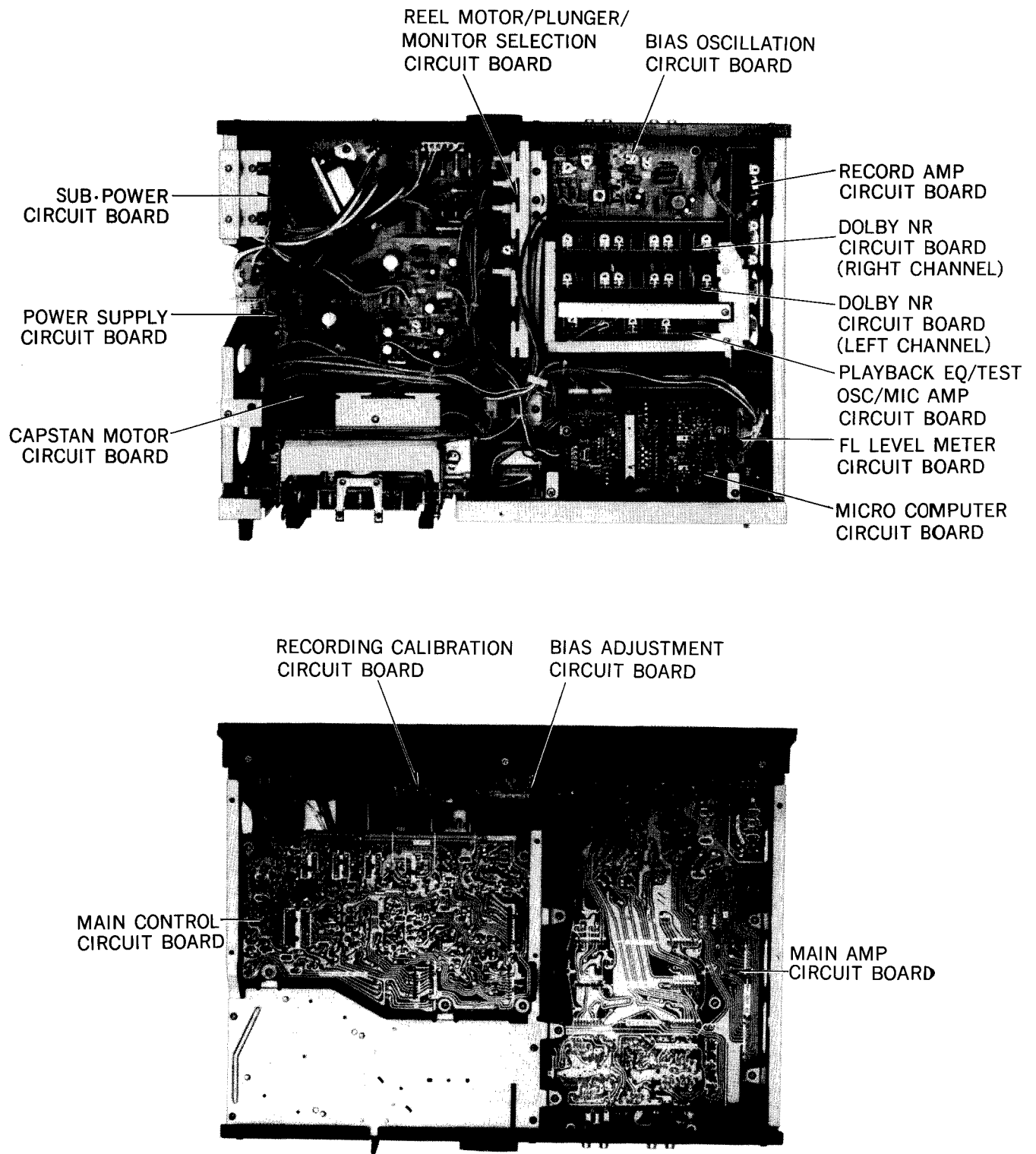


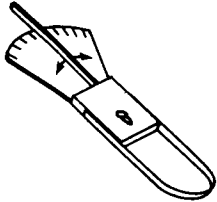
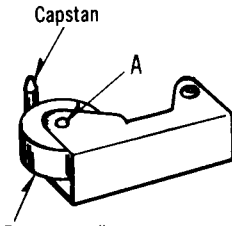
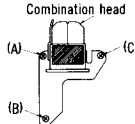
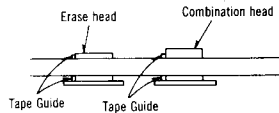
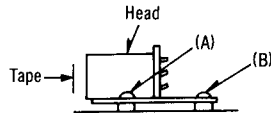
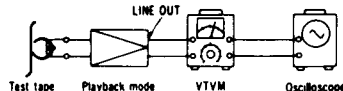
Fig. 7



# MEASUREMENT AND ADJUSTMENT METHODS

## NOTE:

1. Make sure heads are clean.
2. Make sure capstan and pressure roller are clean.
3. Judgeable room temperature:  $20 \pm 5^{\circ}\text{C}$  ( $68 \pm 9^{\circ}\text{F}$ ).
4. Tape selector: Normal.
5. Monitor selector: Tape.
6. Bias adjustment control: Center.
7. Input level control: Maximum.
8. Output level control: Maximum.
9. Dolby NR selector: Out.
10. Input selector: Line.
11. Meter light control: Bright.
12. Peak/VU selector: Peak.
13. Peak hold selector: OFF.
14. Timer selector: OFF.

ITEM	MEASUREMENT & ADJUSTMENT
<b>A Power supply adjustment</b>	<b>+20V adjustment</b> <ol style="list-style-type: none"> <li>Connect voltmeter to the test point [20V T.P] on the power circuit board and read voltage.</li> </ol> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">Standard value: <math>+20 \pm 0.5\text{V}</math></div> <ol style="list-style-type: none"> <li>If measured value is not in standard, adjust VR801 as shown in fig. 37.</li> </ol>
<b>B Pressure of pressure roller</b> Condition: * Playback mode Equipment: * Tension gauge (max. 500 gr) 	<ol style="list-style-type: none"> <li>Place UNIT into playback mode.</li> <li>Hook tension gauge to pressure roller shaft top (A), and pull gauge in direction opposite to pressure of pressure roller against capstan (See fig. 8).</li> <li>Read pressure indicated on gauge immediately when pressure roller moves away from capstan and stops rotating.</li> </ol> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">Standard value: <math>400 \pm 30\text{ gr}</math></div> <div style="text-align: right;">             Fig. 8         </div>
<b>C Takeup tension</b> Condition: * Playback mode Equipment: * Cassette torque meter (QZZSRKCT)	<ol style="list-style-type: none"> <li>Mount cassette torque meter on UNIT.</li> <li>Place UNIT into playback mode.</li> <li>Measure the takeup torque within 15 seconds after starting the playback mode.</li> </ol> <div style="border: 1px solid black; padding: 2px; width: fit-content; margin: 5px auto;">Standard value: <math>40 \pm 2\text{ gr-cm}</math></div> <ol style="list-style-type: none"> <li>If measured value is not within standard, adjust VR601.</li> </ol>
<b>D Combination head adjustment</b> Condition: * Playback mode Equipment: * VTVM * Oscilloscope * Test tape... QZZCRD (Tape path viewer with mirror) * Test tape... QZZCFM (azimuth)	<ol style="list-style-type: none"> <li>Test equipment connection is shown in fig. 9.</li> <li>Playback the test tape (QZZCRD).</li> <li>In this condition, adjust screws (A) and (B) shown in fig. 10 and 12 so that the tape may not get curled or malformed by tape guides of the erase head and the combination head (fig. 11 shows correct condition).</li> </ol> <p><b>Note:</b> For the combination head carefully adjust the height so that the head surface contacts the tape in parallel shown in fig. 12.</p> <ol style="list-style-type: none"> <li>Playback the azimuth tape (QZZCFM 8kHz).</li> <li>Adjust the combination head angle adjustment screw (C) in fig. 10 so that the output level at LINE OUT becomes maximum.</li> <li>Measure both channels, and adjust levels for equal output.</li> <li>After adjustment, lock the head adjustment screws with lacquer.</li> </ol> <div style="display: flex; justify-content: space-around; align-items: flex-end;"> <div style="text-align: center;">             Fig. 10         </div> <div style="text-align: center;">             Fig. 11         </div> <div style="text-align: center;">             Fig. 12         </div> </div> <div style="text-align: right; margin-top: 10px;">             Fig. 9         </div>

ITEM	MEASUREMENT & ADJUSTMENT
<p><b>E Tape speed</b></p> <p>Condition:</p> <ul style="list-style-type: none"> <li>* Playback mode</li> </ul> <p>Equipment:</p> <ul style="list-style-type: none"> <li>* Digital electronic counter</li> <li>* Test tape ... QZZCWAT</li> </ul>	<p><b>Tape speed accuracy</b></p> <ol style="list-style-type: none"> <li>1. Test equipment connection is shown in fig. 13.</li> <li>2. Playback test tape (QZZCWAT 3,000Hz), and supply playback signal to frequency counter.</li> <li>3. Measure this frequency.</li> <li>4. On the basis of 3,000Hz, determine value by following formula:</li> </ol> $\text{Tape speed accuracy} = \frac{f - 3,000}{3,000} \times 100 (\%)$ <p style="text-align: center;"><math>f</math> = measured value</p> <ol style="list-style-type: none"> <li>5. Take measurement at middle section of tape.</li> </ol> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <b>Standard value: <math>\pm 0.4\%</math></b> </div> <p><b>Tape speed fluctuation</b></p> <p>Make measurements in same manner as above (beginning, middle and end of tape), and determine difference between maximum and minimum values and calculate as follows:</p> $\text{Tape speed fluctuation} = \frac{f_2 - f_1}{3,000} \times 100 (\%)$ <p style="text-align: center;"><math>f_1</math> = maximum value, <math>f_2</math> = minimum value</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <b>Standard value: Less than 0.3%</b> </div>
<p><b>F Wow and flutter</b></p> <p>Condition:</p> <ul style="list-style-type: none"> <li>* Playback mode</li> </ul> <p>Equipment:</p> <ul style="list-style-type: none"> <li>* Wow meter</li> <li>* Test tape ... QZZCWAT</li> </ul>	<ol style="list-style-type: none"> <li>1. Test equipment connection is shown in fig. 14.</li> <li>2. Use wow test tape (3,000Hz) and measure its playback signal on wow meter.</li> <li>3. Wow and flutter is expressed in percentage and that measurement can be weighted by JIS network (WRMS).</li> <li>4. Measure at middle section of test tape.</li> </ol> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <b>Standard value: 0.04% (WRMS)</b> </div>
<p><b>G Capstan motor circuit adjustment</b></p> <p>Condition:</p> <ul style="list-style-type: none"> <li>* Playback mode</li> </ul> <p>Equipment:</p> <ul style="list-style-type: none"> <li>* DC voltmeter</li> <li>* Oscilloscope</li> </ul>	<p><b>A. Standard DC power supply voltage adjustment</b></p> <ol style="list-style-type: none"> <li>1. Measure the DC voltage between central point of VR703 and ⑥ terminal of IC702 as shown in fig. 15.</li> </ol> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <b>Standard voltage: <math>0 \pm 0.05\text{V}</math></b> </div> <p>2. If measured voltage is not within standard, adjust VR703.</p> <p><b>B. Phase lock point adjustment</b></p> <ol style="list-style-type: none"> <li>1. Measure the DC voltage between ④ terminal of IC702 and ground as shown below.</li> </ol> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <b>Standard voltage: <math>5.2 \pm 0.1\text{V}</math></b> </div> <p>2. If measured voltage is not within standard, adjust VR702.</p> <p><b>C. Position detecting signal output level adjustment</b></p> <ol style="list-style-type: none"> <li>1. Connect oscilloscope to test point (T.P. P.V.).</li> <li>2. Measure the peak-to-peak voltage of position detection signal of test point with the oscilloscope.</li> <li>3. If the measured signal voltage is markedly different from the voltage shown below, make the necessary adjustment with VR701.</li> </ol>

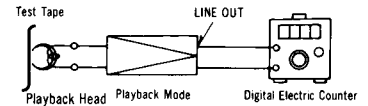


Fig. 13

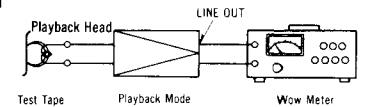


Fig. 14

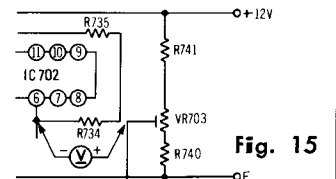


Fig. 15

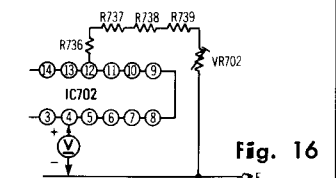


Fig. 16

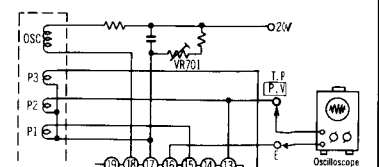


Fig. 17

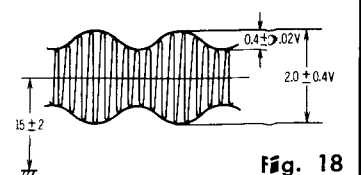
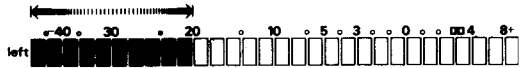
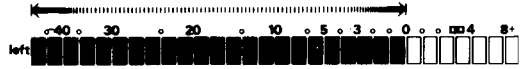
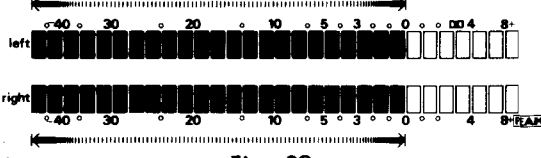
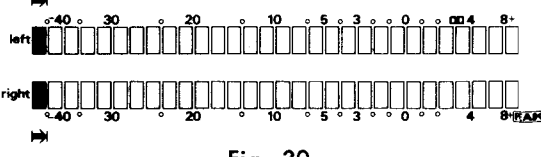
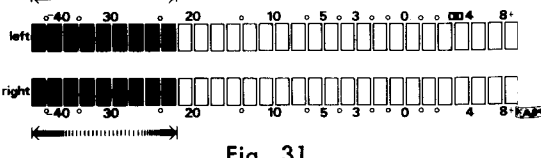
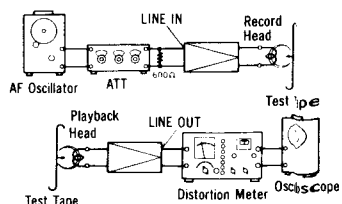


Fig. 18

ITEM	MEASUREMENT & ADJUSTMENT
<p><b>H Playback frequency response</b></p> <p>Condition:</p> <ul style="list-style-type: none"> <li>* Playback mode</li> <li>* Output level control ... MAX</li> </ul> <p>Equipment:</p> <ul style="list-style-type: none"> <li>* VTVM</li> <li>* Oscilloscope</li> <li>* Test tape ... QZZCFM</li> </ul>	<p>1. Test equipment connection is as same as "Head azimuth adjustment" but use the test tape (QZZCFM) instead of head azimuth tape (See fig. 9).</p> <p>2. Place UNIT into playback mode.</p> <p>3. Playback frequency response test tape (QZZCFM).</p> <p>4. Measure output level at 12.5kHz, 8kHz, 4kHz, 1kHz, 250Hz, 125Hz and 63Hz and compare output level with standard frequency 315Hz at LINE OUT.</p> <p>5. Make measurement for both channels.</p> <p>6. Make sure that the measured value is within the range specified in the frequency response chart.</p> <p>7. If measured value is not in standard, adjust VR1 (L-CH), VR2 (R-CH) (See fig. 35 on page 9).</p> <div data-bbox="893 324 1436 515"> <p><b>Playback frequency response chart</b></p> <p><b>Fig. 19</b></p> </div>
<p><b>I Playback gain</b></p> <p>Condition:</p> <ul style="list-style-type: none"> <li>* Playback mode</li> <li>* Output level control ... MAX</li> </ul> <p>Equipment:</p> <ul style="list-style-type: none"> <li>* VTVM</li> <li>* Oscilloscope</li> <li>* Test tape ... QZZCFM</li> </ul>	<p>1. Test equipment connection is shown in fig. 9.</p> <p>2. Playback standard recording level portion on test tape (QZZCFM 315Hz) and, using VTVM, measure the output level at LINE OUT jack.</p> <p>3. Make measurement for both channels.</p> <div data-bbox="523 813 887 857" style="border: 1px solid black; padding: 5px; text-align: center;"> <b>Standard value: <math>0.65 \pm 0.05 V</math></b> </div> <p><b>Adjustment</b></p> <p>1. If measured value is not standard, adjust VR101 (L-CH), VR102 (R-CH) (See fig. 37 on page 11).</p> <p>2. After adjustment, check "Playback frequency response" again.</p>
<p><b>J Playback S/N ratio</b></p> <p>Condition:</p> <ul style="list-style-type: none"> <li>* Playback mode</li> <li>* Output level control ... MAX</li> </ul> <p>Equipment:</p> <ul style="list-style-type: none"> <li>* VTVM</li> <li>* Oscilloscope</li> <li>* Test tape ... QZZCFM</li> <li>* Empty cassette</li> </ul>	<p>1. Test equipment connection is shown in fig. 9.</p> <p>2. Playback standard recording level test tape (QZZCFM 315Hz) and read output level on VTVM. Refer to "Playback gain adjustment".</p> <p>3. Place empty cassette (which has been cut) and playback again.</p> <p>4. Measure noise level at this time using VTVM, and determine ratio of this level to test tape output signal voltage (315Hz).</p> <div data-bbox="523 1171 948 1216" style="border: 1px solid black; padding: 5px; text-align: center;"> <b>Standard value: Greater than 47dB</b> </div>
<p><b>K Bias leak</b></p> <p>Condition:</p> <ul style="list-style-type: none"> <li>* Record mode</li> <li>* Input level control ... MAX</li> </ul> <p>Equipment:</p> <ul style="list-style-type: none"> <li>* VTVM</li> <li>* Oscilloscope</li> </ul>	<p>1. Test equipment connection is shown in fig. 20.</p> <p>2. Place UNIT into record mode.</p> <p>3. Adjust trap coils L851 (L-CH), L852 (R-CH) so that measured value becomes minimum (See adjustment parts location on page 11).</p> <p>4. Make adjustment for both channels.</p> <div data-bbox="1098 1279 1425 1491"> <p><b>Fig. 20</b></p> </div>
<p><b>L Record bias amplifier circuit</b></p>	<p><b>Transistor base current waveform adjustment</b></p> <p><b>A. Lower part of wave form</b></p> <ol style="list-style-type: none"> <li>Set the tape selector to the "Metal" position.</li> <li>Press the record and pause buttons.</li> <li>Connect the oscilloscope to <b>1</b> (for Q853) and <b>2</b> (for Q854).</li> <li>Observe the wave form on the oscilloscope, and adjust VR851 (for Q853) and VR852 (for Q854) so that the lower part of the wave form is as shown in fig. 22.</li> </ol> <p><b>Note:</b> The wave form can be improved by turning VR851 and VR852 counterclockwise. Stop turning VR851 and VR852 immediately after elimination of deformed part of the wave.</p> <div data-bbox="893 1525 1425 1971"> <p><b>Fig. 21</b></p> <p><b>Fig. 22</b></p> <p>If the wave is deformed as shown here, adjust VR851 and VR852</p> </div>

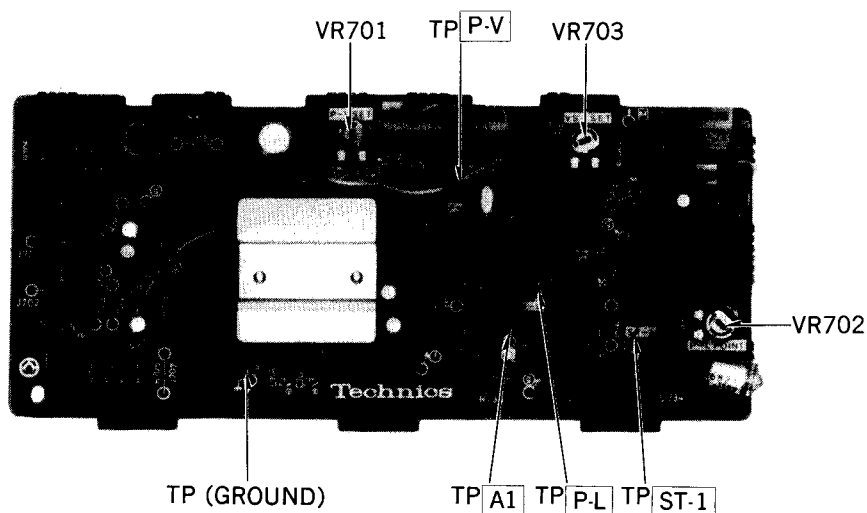
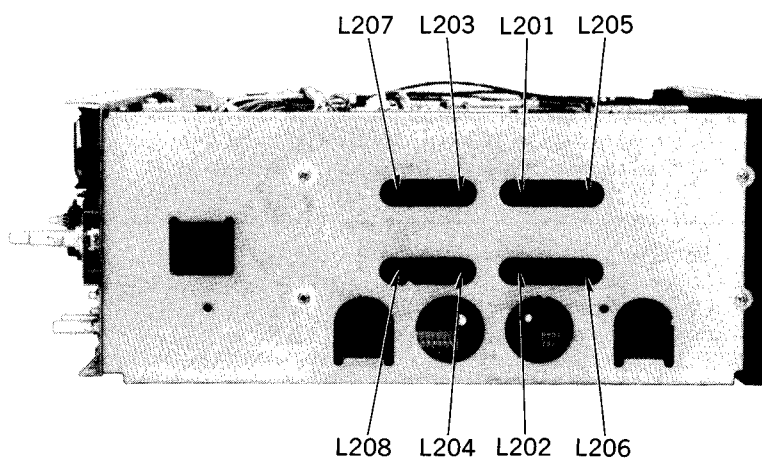
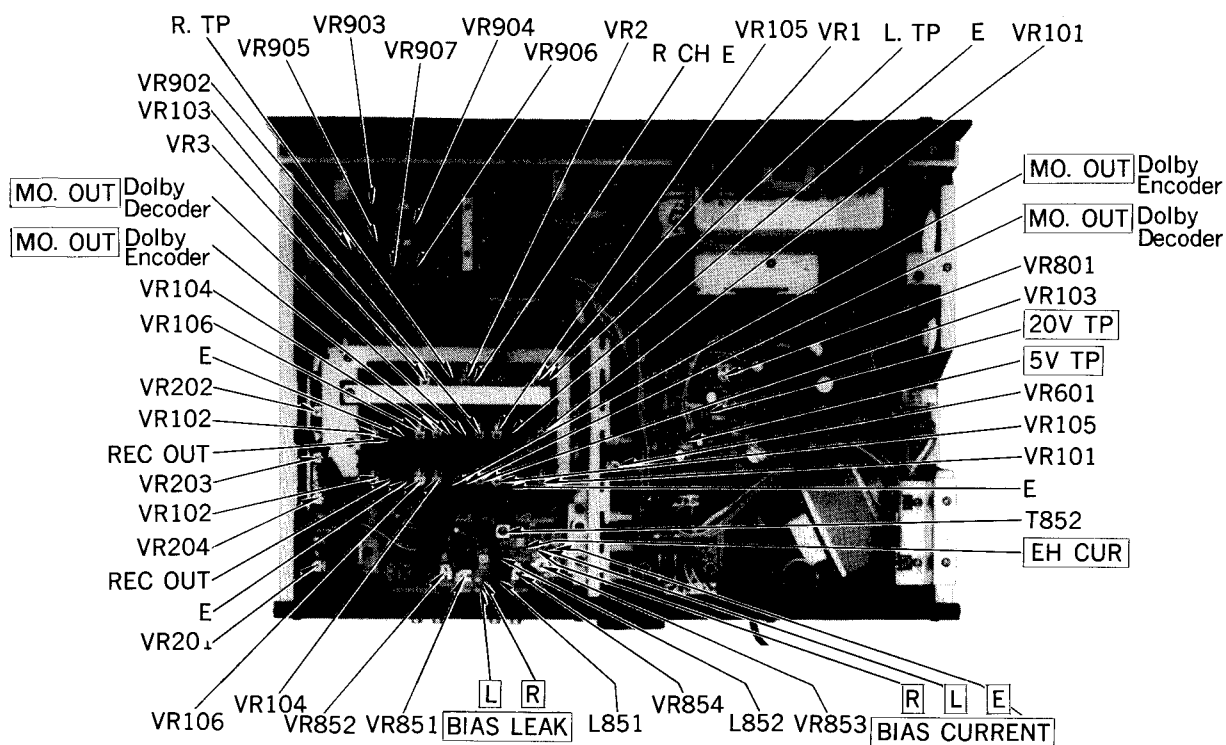
ITEM	MEASUREMENT & ADJUSTMENT
	<p><b>B. Upper part of wave form</b></p> <p>5. After adjusting the lower part of the wave form, observe the upper part of the wave.</p> <p>6. If the wave form is as symmetrically distorted as shown in fig. 23, adjust T852.</p> <p><b>Note:</b> If the wave form is observed as in (a), turn T852 clockwise. If the wave form is observed as in (b), turn T852 counterclockwise. In each case to achieve symmetrical pattern as shown in (c).</p> <div data-bbox="970 331 1439 524"> <p>Fig. 23</p> </div>
<p><b>M Bias current</b></p> <p>Condition:</p> <ul style="list-style-type: none"> <li>* Record mode</li> <li>* Bias adjustment control ... Center</li> </ul> <p>Equipment:</p> <ul style="list-style-type: none"> <li>* VTVM</li> <li>* Oscilloscope</li> </ul>	<ol style="list-style-type: none"> <li>Test equipment connection is shown in fig. 24.</li> <li>Press the record and pause buttons. Set the tape selector to normal position.</li> <li>Read voltage on VTVM and calculate bias current by following formula.</li> </ol> <div data-bbox="619 768 1023 824"> <math display="block">\text{Bias current (A)} = \frac{\text{Value read on VTVM (V)}}{10 (\Omega)}</math> </div> <div data-bbox="598 846 911 875" style="border: 1px solid black; padding: 2px; text-align: center;"> <b>Standard value: 1.0 ± 0.3 mA</b> </div> <div data-bbox="1134 703 1485 831"> <p>Fig. 24</p> </div> <ol style="list-style-type: none"> <li>Adjust VR853 (L-CH) and VR854 (R-CH) (See adjustment parts location on page 11).</li> <li>Then changing the tape selector to Fe-Cr position measure the bias current.</li> </ol> <div data-bbox="598 976 911 1003" style="border: 1px solid black; padding: 2px; text-align: center;"> <b>Standard value: 1.1 ± 0.3 mA</b> </div> <ol style="list-style-type: none"> <li>If measured value is not in standard, adjust VR202.</li> <li>Change the tape selector to CrO<sub>2</sub> position, measure the bias current.</li> </ol> <div data-bbox="598 1104 911 1131" style="border: 1px solid black; padding: 2px; text-align: center;"> <b>Standard value: 1.5 ± 0.4 mA</b> </div> <ol style="list-style-type: none"> <li>If measured value is not in standard, adjust VR203.</li> <li>Change the tape selector to the "Metal" position, measure the bias current.</li> </ol> <div data-bbox="598 1232 911 1258" style="border: 1px solid black; padding: 2px; text-align: center;"> <b>Standard value: 2.2 ± 0.6 mA</b> </div> <li>If measured value is not in standard, adjust VR204.</li>
<p><b>N Erase current</b></p> <p>Condition:</p> <ul style="list-style-type: none"> <li>* Record mode</li> <li>* Bias adjustment control ... Center</li> </ul> <p>Equipment:</p> <ul style="list-style-type: none"> <li>* VTVM</li> <li>* Oscilloscope</li> </ul>	<ol style="list-style-type: none"> <li>Test equipment connection is shown in fig. 25.</li> <li>Set the tape selector to the "Metal" position.</li> <li>Press the record and pause buttons.</li> <li>Measure voltage on VTVM.</li> <li>Determine erase current with the following formula.</li> </ol> <div data-bbox="603 1473 1102 1525"> <math display="block">\text{Erase current (A)} = \frac{\text{Voltage across both ends of R861}}{1 (\Omega)}</math> </div> <div data-bbox="580 1547 1038 1583" style="border: 1px solid black; padding: 2px; text-align: center;"> <b>Standard value: 95 <sup>+5</sup><sub>-0</sub> mA (Metal position)</b> </div> <div data-bbox="1118 1397 1469 1559"> <p>Fig. 25</p> </div> <li>If measured value is not within standard, adjust VR201.</li>
<p><b>Overall gain</b></p> <p>Condition:</p> <ul style="list-style-type: none"> <li>* Standard input level: MIC ..... -72 ± 3 dB LINE IN ... -24 ± 3 dB</li> </ul> <p>Equipment:</p> <ul style="list-style-type: none"> <li>* AF oscillator</li> <li>* VTVM</li> <li>* ATT</li> <li>* Oscilloscope</li> <li>* Test tape (reference blank tape) ... QZZCRA for Normal</li> </ul>	<ol style="list-style-type: none"> <li>Test equipment connection is shown in fig. 26.</li> <li>Set the tape selector to "Normal" position.</li> <li>Supply 1 kHz signal (-24 dB) from AF oscillator, through ATT, to LINE IN.</li> <li>Adjust ATT until source monitor level at LINE OUT becomes 0.65 V.</li> <li>Using test tape, make recording.</li> <li>Then, measure the tape monitor output level at LINE OUT on VTVM.</li> </ol> <div data-bbox="580 1921 895 1948" style="border: 1px solid black; padding: 2px; text-align: center;"> <b>Standard value: 0.65 ± 0.05 V</b> </div> <div data-bbox="1129 1697 1469 1951"> <p>Fig. 26</p> </div> <li>If measured value is not within standard, adjust VR102.</li>

ITEM	MEASUREMENT & ADJUSTMENT
<p><b>Ⓟ Fluorescent level meter</b></p> <p>Condition:</p> <ul style="list-style-type: none"> <li>* Record mode</li> <li>* Peak/VU selector</li> <li>... Peak position</li> </ul> <p>Equipment:</p> <ul style="list-style-type: none"> <li>* VTVM</li> <li>* AF oscillator</li> <li>* ATT</li> </ul>	<ol style="list-style-type: none"> <li>Test equipment connection is shown in fig. 26.</li> <li>Set the monitor switch to the "source" position.</li> <li>Supply 1 kHz signal (<math>-24 \pm 3</math> dB) to the LINE IN jack.</li> <li>Adjust the ATT so that the source monitor output level of left channel becomes 0.65 V.             <ul style="list-style-type: none"> <li>* The attenuation of ATT at that point is the standard input level.</li> </ul> </li> </ol> <p><b>A. Adjustment of "-20dB" indication (Left channel indication)</b></p> <ol style="list-style-type: none"> <li>Attenuate ATT by 20 dB from the standard input level. (Then, the source monitor output level is 0.065 V.)</li> <li>Turn VR903 clockwise completely.</li> <li>Next, slowly turn VR903 counter-clockwise until the "-18 dB" indication on the meter goes out.</li> </ol>  <p><b>Fig. 27</b></p> <p><b>B. Adjustment of "0dB" indication (Left channel indication)</b></p> <ol style="list-style-type: none"> <li>Set the ATT to the standard level. (Then, the source monitor output level is 0.65 V.)</li> <li>Turn VR907 counterclockwise completely.</li> <li>Slowly turn VR907 clockwise until the "+1 dB" indication on the meter goes out.</li> </ol>  <p><b>Fig. 28</b></p> <p><b>C. Adjustment of balance between right and left channels.</b></p> <ol style="list-style-type: none"> <li>After the adjustment in B, adjust VR902 (for right channel), if necessary, so that the right channel indication matches the left channel indication.</li> </ol>  <p><b>Fig. 29</b></p> <p><b>D. Adjustment of "-42dB" indication</b></p> <ul style="list-style-type: none"> <li>* "-42 dB" indication lights up with power supply turned on.</li> </ul> <ol style="list-style-type: none"> <li>Attenuate the ATT by 42 dB from the standard input level. (Then, the source monitor output level is 0.0052 V.)</li> <li>Fully turn VR904 (for L-CH) and VR905 (for R-CH) clockwise.</li> <li>Slowly turn VR904 and VR905 counterclockwise until the "-40 dB" indication on the meter goes out.</li> </ol>  <p><b>Fig. 30</b></p> <p><b>E. Adjustment of "-22dB" indication</b></p> <ol style="list-style-type: none"> <li>Attenuate the ATT by 22 dB from the standard input level. (Then, the source monitor output level is 0.052 V.)</li> <li>Turn VR906 counterclockwise completely.</li> <li>Slowly turn VR906 clockwise until the "-20 dB" indication on the meter goes out.</li> </ol>  <p><b>Fig. 31</b></p>
<p><b>Ⓢ Overall distortion</b></p> <p>Equipment:</p> <ul style="list-style-type: none"> <li>* Distortion meter</li> <li>* AF oscillator</li> <li>* ATT</li> <li>* Oscilloscope</li> <li>* Test tape... QZZCRA (reference blank tape)</li> </ul>	<ol style="list-style-type: none"> <li>Test equipment connection is shown in fig. 32.</li> <li>Set the monitor selector to "source" position.</li> <li>Supply 315 Hz signal to LINE IN and adjust ATT so that output level at LINE OUT indicates 0.65 V.</li> <li>Change the monitor selector to "tape" position.</li> <li>Press the record and playback buttons, and measure distortion factor of tape monitor output signal.</li> </ol>  <p><b>Fig. 32</b></p>

ITEM	MEASUREMENT & ADJUSTMENT
	<p>6. When the distortion factor does not satisfy the standard, check the bias current. When the bias current is lower than standard, distortion will increase. Care should be exercised in the adjustment because the bias current also has an influence on the overall frequency response. Refer to "The overall frequency response" and "The bias current adjustment".</p> <div data-bbox="564 479 960 524" style="border: 1px solid black; padding: 5px; text-align: center;"> <b>Standard value: Less than 2.5%</b> </div>
<p><b>Ⓜ Overall frequency response</b></p> <p>Equipment:</p> <ul style="list-style-type: none"> <li>* VTVM</li> <li>* AF oscillator</li> <li>* ATT</li> <li>* Test tape (reference blank tape)               <ul style="list-style-type: none"> <li>... QZZCRA for Normal</li> <li>... QZZCRX for CrO<sub>2</sub></li> <li>... QZZCRY for Fe-Cr</li> <li>... QZZCRZ for Metal</li> </ul> </li> </ul>	<p><b>Note:</b></p> <p>Before measuring and adjusting, make sure of the playback frequency response (For the method of measurement, please refer to the playback frequency response).</p> <ol style="list-style-type: none"> <li>1. Test equipment connection is shown in fig. 26.</li> <li>2. Load reference blank test tape.</li> <li>3. Set the monitor selector to "source" position.</li> <li>4. Supply 1 kHz signal from AF oscillator through ATT to LINE IN.</li> <li>5. Adjust ATT so that input level is -20 dB below standard recording level (standard recording level = 0 VU).</li> <li>6. At this time, LINE OUT level indicates 0.065 V.</li> <li>7. Change the monitor selector to "tape" position.</li> <li>8. Press the record and playback buttons and supply each frequency signals 1 kHz, 30 Hz, 70 Hz, 700 Hz, 6 kHz, 8 kHz, 10 kHz, 13 kHz, 15 kHz and 16 kHz.</li> <li>9. Measure the tape monitor output level and express in dB the difference between the tape monitor output level of each frequency based on output level of 1 kHz.</li> <li>10. Make sure that the measured value is within the range specified in the overall frequency response chart.</li> </ol> <div style="display: flex; justify-content: space-around;"> <div data-bbox="946 573 1455 772"> <p><b>Overall frequency response chart (Normal)</b></p> <p style="text-align: center;"><b>Fig. 33</b></p> </div> <div data-bbox="909 808 1477 1014"> <p><b>Overall frequency response chart (Fe-Cr, CrO<sub>2</sub>, Metal)</b></p> <p style="text-align: center;"><b>Fig. 34</b></p> </div> </div>
Adjustment-1	<p><b>Adjustment-1 Using bias current</b></p> <ol style="list-style-type: none"> <li>1. When the frequency response between the middle and high frequency range becomes higher than the standard value, as shown by the solid line in fig. 35 increase the bias current by turning the following VR.           <div style="margin-left: 40px;">             Normal ..... VR853 (L-CH), VR854 (R-CH)              Fe-Cr ..... VR202              CrO<sub>2</sub> ..... VR203              Metal ..... VR204           </div> </li> <li>2. When it becomes lower, as shown by dotted line, reduce the bias current by turning in the direction opposite to arrow indication.</li> </ol> <div data-bbox="1142 1296 1422 1514" style="text-align: center;"> <p><b>Fig. 35</b></p> </div>
Adjustment-2	<p><b>Adjustment-2 Using the peaking coil for recording equalization</b></p> <p>When the frequency response is flat in the middle frequency range and makes a sharp rise or drop in the high frequency range, as shown in fig. 36, adjust by turning the following peaking coils.</p> <div style="margin-left: 40px;">       Normal ..... L207 (L-CH), L208 (R-CH)        Fe-Cr ..... L205 (L-CH), L206 (R-CH)        CrO<sub>2</sub> ..... L203 (L-CH), L204 (R-CH)        Metal ..... L201 (L-CH), L202 (R-CH)     </div> <div data-bbox="1142 1760 1422 1977" style="text-align: center;"> <p><b>Fig. 36</b></p> </div>

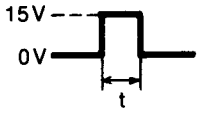
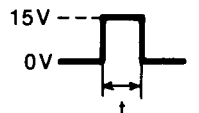
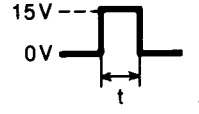
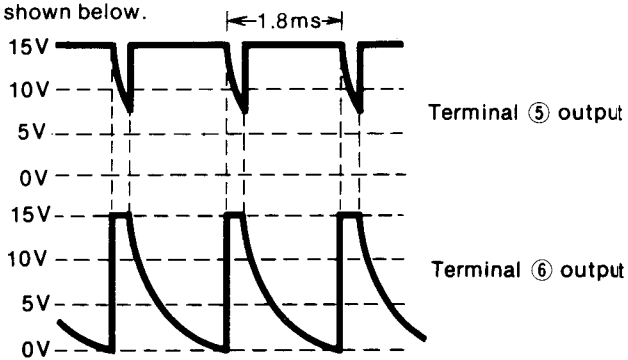
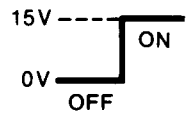
ITEM	MEASUREMENT & ADJUSTMENT
<p><b>㊦ Dolby NR circuit</b></p> <p>Equipment:</p> <ul style="list-style-type: none"> <li>* VTVM</li> <li>* AF oscillator</li> <li>* ATT</li> <li>* Oscilloscope</li> </ul>	<p><b>A. Dolby encoder block</b></p> <ol style="list-style-type: none"> <li>1. Set the Dolby NR selector to "OUT" position.</li> <li>2. Supply 5kHz signal to LINE IN to obtain <math>-35\text{ dB}</math> at test point <b>MO. OUT</b> on the Dolby encoder circuit board.</li> <li>3. Then change the Dolby NR selector to "IN" position.</li> <li>4. Measure the output level at test point <b>REC OUT</b>.</li> <li>5. Confirm that the value at "IN" position is <math>8\text{ dB}</math> greater than the value at "OUT" position of Dolby NR selector.</li> </ol> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <b>Standard value: <math>+8 \pm 0.5\text{ dB}</math></b> </div> <ol style="list-style-type: none"> <li>6. If measured value is not within standard, adjust as follows.             <ol style="list-style-type: none"> <li>① Set the Dolby NR selector to "IN" position.</li> <li>② Turn VR104 clockwise completely.</li> <li>③ At this time, adjust VR106 so that the output level at test point <b>REC OUT</b> becomes <math>-25\text{ dB}</math>.</li> <li>④ Then adjust VR104 so that the output level at test point <b>REC OUT</b> becomes <math>-27\text{ dB}</math>.</li> </ol> </li> </ol> <p><b>B. Dolby decoder block</b></p> <ol style="list-style-type: none"> <li>1. Set the Dolby NR selector to "OUT" position.</li> <li>2. Supply 5kHz signal to test point <b>L.T.P</b> and <b>R.T.P</b> on the playback EQ AMP circuit board and adjust ATT to obtain <math>-27\text{ dB}</math> at test point <b>MO. OUT</b> on the Dolby decoder circuit board.</li> <li>3. Then change the Dolby NR selector to "IN" position.</li> <li>4. Measure the output level at test point <b>MO. OUT</b>.</li> <li>5. Confirm that the value at "IN" position is <math>8\text{ dB}</math> smaller than the value at "OUT" position of Dolby NR selector.</li> </ol> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <b>Standard value: <math>-8 \pm 0.5\text{ dB}</math></b> </div> <ol style="list-style-type: none"> <li>6. If measured value is not within standard, adjust as follows.             <ol style="list-style-type: none"> <li>① Set the Dolby NR selector to "IN" position.</li> <li>② Turn VR103 counterclockwise.</li> <li>③ At this time, adjust VR105 so that the output level at test point <b>MO. OUT</b> becomes <math>-37\text{ dB}</math>.</li> <li>④ Then adjust VR103 so that the output level at test point <b>MO. OUT</b> becomes <math>-35\text{ dB}</math>.</li> </ol> </li> </ol>
<p><b>㊦ Overall S/N ratio</b></p> <p>Equipment:</p> <ul style="list-style-type: none"> <li>* VTVM</li> <li>* AF oscillator</li> <li>* ATT</li> <li>* Oscilloscope</li> <li>* Test tape ... QZZCRX (reference blank tape)</li> </ul>	<ol style="list-style-type: none"> <li>1. Test equipment connection is shown in fig. 26.</li> <li>2. Set the monitor selector to tape position and tape selector to CrO<sub>2</sub> position.</li> <li>3. Load reference blank test tape (QZZCRX).</li> <li>4. Press the record and playback buttons.</li> <li>5. Supply 1 kHz signal to LINE IN and adjust ATT so that tape monitor output level at LINE OUT indicates <math>0.65\text{ V}</math>.</li> <li>6. Then, disconnect input plug to LINE IN.</li> <li>7. Measure tape monitor output signal levels of 1 kHz and no signal level (noise), and determine the ratio in decibels (dB).</li> <li>8. The value is difference between "Playback S/N and overall S/N", but for decibel calculation refer to "Playback S/N measurement" on page 6.</li> </ol> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <b>Standard value: Greater than <math>45\text{ dB}</math> (without NAB filter)</b> </div>
<p><b>㊦ Test oscillator</b></p>	<p><b>Test oscillation level</b></p> <ol style="list-style-type: none"> <li>1. Set the input selector to "400Hz/8kHz" position and monitor selector to "source" position.</li> <li>2. Press the record and pause buttons.</li> <li>3. Measure the output level of LEFT (400Hz) and RIGHT (8kHz) channels at LINE OUT.</li> </ol> <div style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <b>Standard value: Same level</b> </div> <ol style="list-style-type: none"> <li>4. If output levels are not same, adjust VR3.</li> </ol>

## ADJUSTMENT PARTS LOCATION

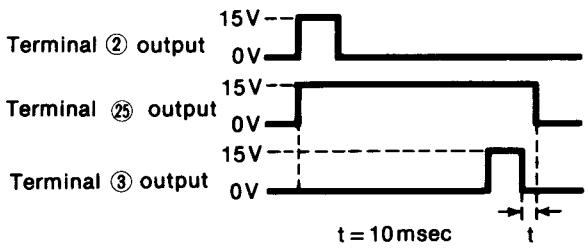
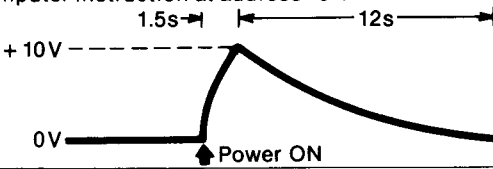
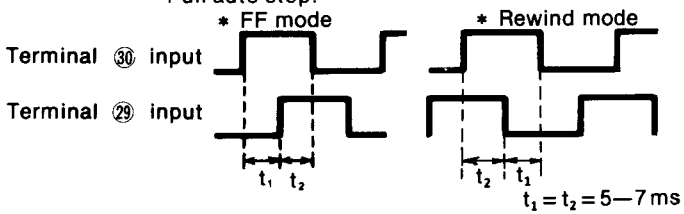
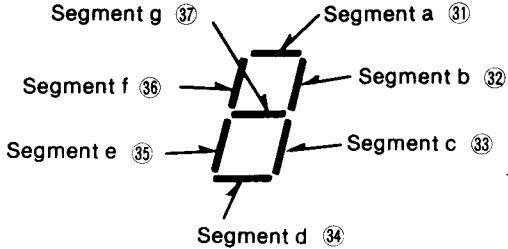
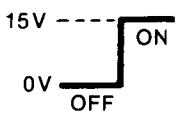
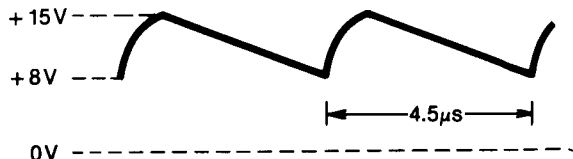




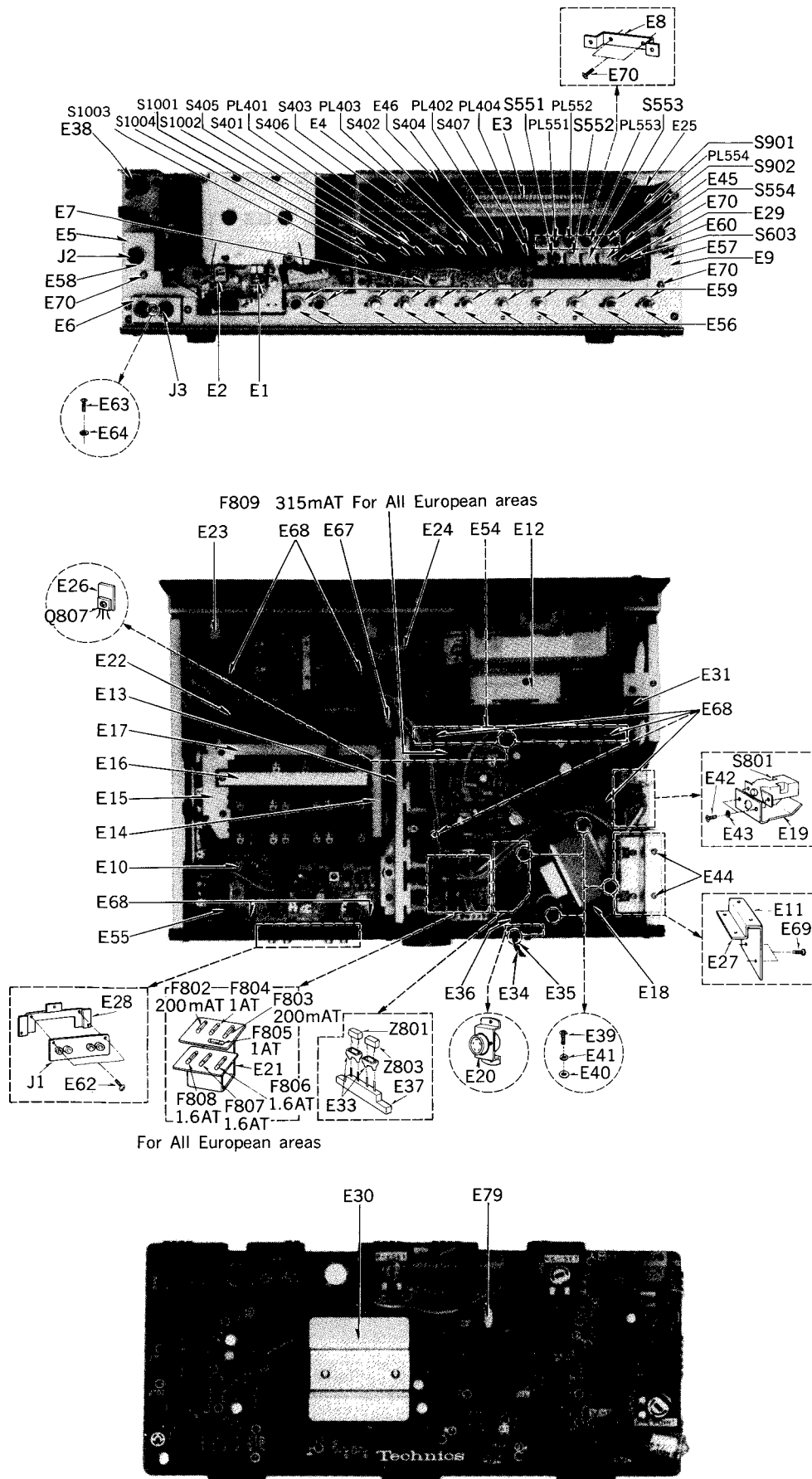
# MICROCOMPUTER TERMINAL OPERATION TABLE

Terminal No.	Symbol	Name	Function/Operation
①	VSS		<ul style="list-style-type: none"> <li>Power <math>15V \pm 0.5V</math></li> </ul>
②	CO11	C-port output	<ul style="list-style-type: none"> <li>Emits Play operation signal in memory PLAY mode.</li> <li>Emits temporary PLAY operation signal for focusing stop in memory STOP mode.</li> </ul>  <p><math>t = 0.1 - 1 \text{ msec}</math></p>
③	CO10	C-port output	<ul style="list-style-type: none"> <li>Emits STOP operation signal in memory PLAY, memory STOP, and AUTO STOP modes.</li> </ul>  <p><math>t = 0.6 - 1 \text{ msec}</math></p>
④	CO9	C-port output	<ul style="list-style-type: none"> <li>Emits REW operation signal in memory REW mode.</li> </ul>  <p><math>t = 0.6 - 1 \text{ msec}</math></p>
⑤ ⑥	CO8 CO7	C-port output	<ul style="list-style-type: none"> <li>The output gives dynamic scan signal to S1003 and S1004 as shown below.</li> </ul>  <p>Terminal ⑤ output</p> <p>Terminal ⑥ output</p> <p><math>\leftarrow 1.8 \text{ ms} \rightarrow</math></p>
⑦ ⑧ ⑨	CO6 CO5 CO4	C-port output	<ul style="list-style-type: none"> <li>Emits the signals to indicate M1, MP, M2 on the digital counter.</li> <li>Terminal ⑦ ....for M2</li> <li>Terminal ⑧ ....for MP</li> <li>Terminal ⑨ ....for M1</li> </ul>  <p>ON</p> <p>OFF</p>

Terminal No.	Symbol	Name	Function/Operation																				
⑩ ⑪ ⑫ ⑬	CO3 CO2 CO1 CO0	C-port output	<ul style="list-style-type: none"> <li>Sends scan signal to each grid of digital counter to turn on grids G1—G4</li> </ul> <div> <p>Terminal ⑩ output</p> <p>Terminal ⑪ output</p> <p>Terminal ⑫ output</p> <p>Terminal ⑬ output</p> </div>																				
⑭ ⑮ ⑯ ⑰	AI3 AI2 AI1 AI0	A-port input	<ul style="list-style-type: none"> <li>Reads in each control mode of REW, FF, PLAY, REC.</li> <li>Terminal ⑭ input..... <math>\text{H}</math> in REW mode</li> <li>Terminal ⑮ input..... <math>\text{H}</math> in FF mode</li> <li>Terminal ⑯ input..... <math>\text{H}</math> in PLAY mode</li> <li>Terminal ⑰ input..... <math>\text{H}</math> in REC mode</li> <li>* <math>\text{H}</math> Level = +15V</li> </ul>																				
⑱	BI3	B-port input	<ul style="list-style-type: none"> <li>Reads in 0.94Hz signal (about 1 sec. interval) from strobo illumination divider circuit to use it as the reference interval for take-up tension control.</li> </ul> <p><math>t = 1.06 \text{ sec}</math></p>																				
⑲	BI2	B-port input	<ul style="list-style-type: none"> <li>With memory switch S1003 or S1004 pressed, it reads in scan signal from terminal (5) or (6) to check the status of control of S1003 and S1004.</li> </ul> <div> <p>With S1003 pressed</p> <p>With S1004 pressed</p> </div>																				
⑳ ㉑	BI1 BI0	B-port input	<ul style="list-style-type: none"> <li>With memory switches S1001 and S1002 pressed, it reads in <math>\text{H}</math> signal.</li> <li>Terminal ㉑ input.....S1002</li> <li>Terminal ㉑ input.....S1001</li> </ul> <p><math>t = \text{switch pressing time}</math></p>																				
㉒ ㉓	EO0 EO1	E-port output	<ul style="list-style-type: none"> <li>Sends 2-bit tension control signal to the reel motor drive circuit.</li> <li>At start of PLAY, terminal ㉒ output is <math>\text{H}</math> and ㉓ output is <math>\text{L}</math> for 15 sec. irrespective of tape winding diameter.</li> <li>After that, signals shown below are emitted according to the tape diameter.</li> </ul> <table border="1"> <thead> <tr> <th>Tape travel</th><th>㉒</th><th>㉓</th><th>Motor torque</th></tr> </thead> <tbody> <tr> <td>Start</td><td><math>\text{H}</math></td><td><math>\text{H}</math></td><td>Low</td></tr> <tr> <td>↓</td><td><math>\text{H}</math></td><td><math>\text{L}</math></td><td>↓</td></tr> <tr> <td>↓</td><td><math>\text{L}</math></td><td><math>\text{H}</math></td><td>↓</td></tr> <tr> <td>End</td><td><math>\text{L}</math></td><td><math>\text{L}</math></td><td>High</td></tr> </tbody> </table>	Tape travel	㉒	㉓	Motor torque	Start	$\text{H}$	$\text{H}$	Low	↓	$\text{H}$	$\text{L}$	↓	↓	$\text{L}$	$\text{H}$	↓	End	$\text{L}$	$\text{L}$	High
Tape travel	㉒	㉓	Motor torque																				
Start	$\text{H}$	$\text{H}$	Low																				
↓	$\text{H}$	$\text{L}$	↓																				
↓	$\text{L}$	$\text{H}$	↓																				
End	$\text{L}$	$\text{L}$	High																				

Terminal No.	Symbol	Name	Function/Operation
②⑤	EO3	E-port output	<ul style="list-style-type: none"> <li>Delivers an output, to ground the signal going to LINE OUT, for muting purposes during focusing of memory STOP (M1, M2).</li> </ul> 
②⑦	RST	Reset	<ul style="list-style-type: none"> <li>Initiates computer instruction at address "0".</li> </ul> 
②⑨ ③①	SNS0 SNS1	Sense input	<ul style="list-style-type: none"> <li>Reads in the rotational state of reel table from hall IC output in order to obtain the following functions. Functions: Tape tension control. Digital counter indication (tape travel) Full auto stop.</li> </ul> 
③① ③② ③③ ③④ ③⑤ ③⑥ ③⑦	DO0 DO1 DO2 DO3 DO4 DO5 DO6	D-port output	<ul style="list-style-type: none"> <li>Emits the signal to activate each segment for the indication of tape travel amount on the digital tape counter.</li> </ul> <p>Relationship between terminal and segment.</p>  
④①	OSC	Oscillation input	<ul style="list-style-type: none"> <li>This is the control terminal of oscillation circuit for producing the clock signal on which the computer operation is based.</li> </ul>  <p>Note: Do not connect the probe of oscilloscope to this terminal directly, otherwise the oscillation frequency may vary.</p>

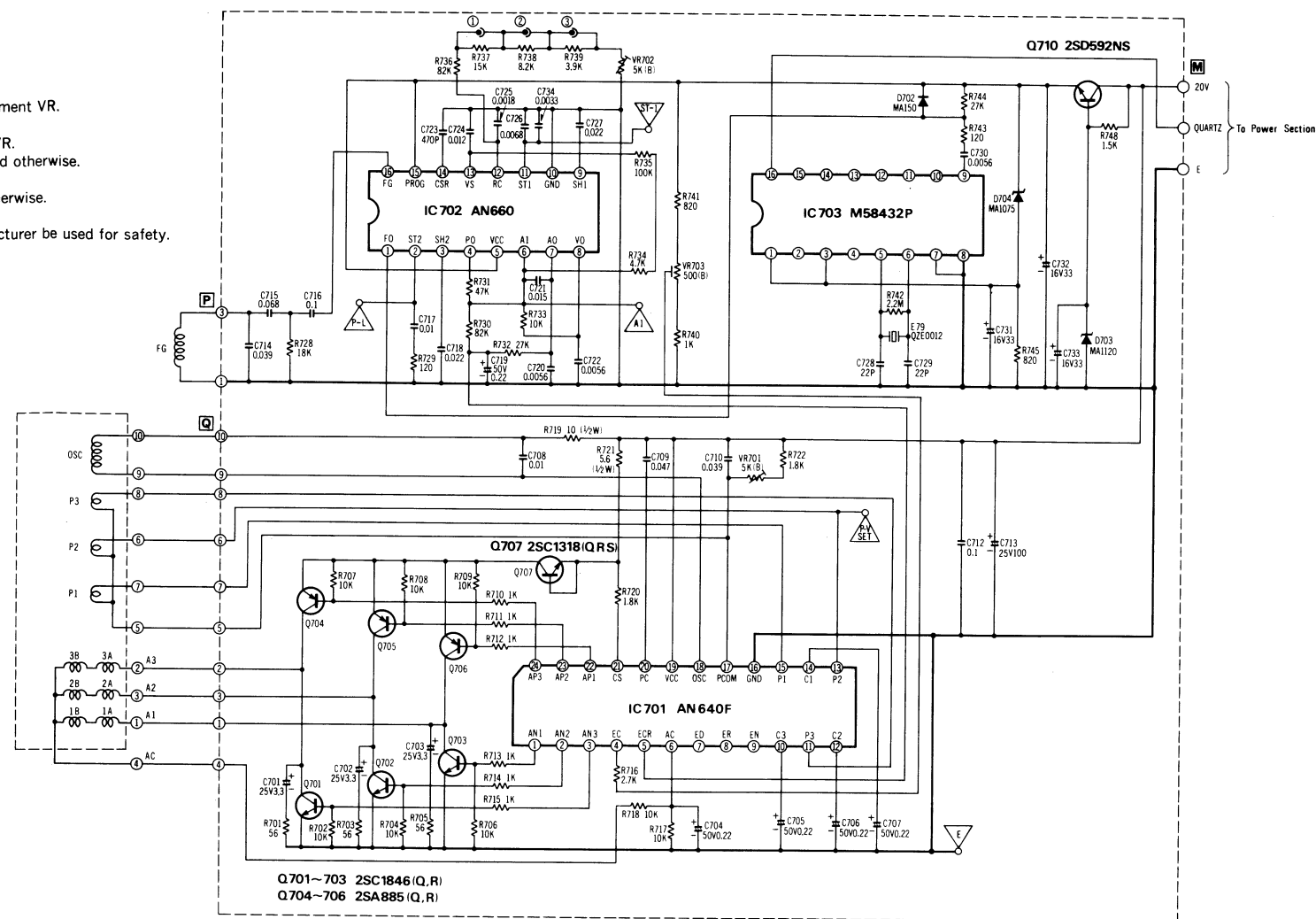
## ELECTRICAL PARTS LOCATION



Ref. No.	Part No.	Part Name & Description
<b>ELECTRICAL PARTS</b>		
E1	WY1403Z	Combination Head (Record/Playback)
E2	QWY2137Z	Erase Head
E3	QSL5005RF	Fluorescent Level Meter
E4	QZE0027	Digital Tape Counter
E5	QMA3623	Headphones Jack Angle
E6	QMA3624	Microphone Jack Angle
E7	QMA3627	Circuit Board Angle
E8	QMA3626	Switch Angle-B
E9	QMA3625	Volume Angle
E10	QMA3682	Circuit Board Angle
E11	QTH1145	Heat Sink-A
E12	QMA3643	Motor Circuit Board Angle-B
E13	QMA3638	Control Circuit Board Angle
E14	QMA3640	Dolby NR Circuit Board Angle
E15	QMA3639	Record Circuit Board Angle
E16	QTS1457	Shield Plate
E17	QTS1472	Shield Plate-A
E18	QMA3635	Transformer Angle
E19	QMA3637	Switch Angle
E20	QMA2885	AC Power Voltage Select Switch Angle
E21	QMA3804	Fuse Angle
*For All European areas.		
E22	QMA3629	Meter Angle-A
E23	QMA3630	Meter Angle-B
E24	QMA3641	Circuit Board Angle-A
E25	QMH2045	Meter Holding Angle
E26	QTH1118	Heat Sink
E27	QTH1146	Heat Sink-B
E28	QMA3300	Jack Board Angle
E29	QMA3628	Switch Angle-A
E30	QTH1136	Heat Sink
E31	QXR0441	Push Button Assembly
E33	QTW1118	Spark Killer Cover
E34	QFC1204M	AC Power Cord
*For All European areas except United Kingdom.		
	QFC1205M	"
*For United Kingdom.		
	QFC1208M	"
*For Australia.		
E35	QBJ1425	Cord Bushing
E36	QTD1164	Cord Clamper
E37	QJT4017	4 Pin Terminal
E38	QKJ0242	Cap
E39	XSN4+8S	Screw 4x8
E40	XWA4B	Washer
E41	XWG4	"
E42	XSN3+5S	Screw 3x5
E43	XWA3B	Washer
E44	XTN3+8B	Tapping Screw 3x8
E45	QMH2043	LED Holder
E46	QMH2044	Counter Holder
E47	QJT1053	Contact-A
E48	QJT1054	Contact-B
E49	QJS1923TN	9 Pin Connector
E50	QJS1925TN	15 Pin Connector
E51	QJS1924TN	12 Pin Connector
E52	QJS1922TN	6 Pin Connector
E53	QJS1921TN	3 Pin Connector
E54	QMA3636	Circuit Board Angle
E55	QMA3633	Shield Angle
E56	QNQ1004	Nut 8φ
E57	QNQ1039	Nut 9φ
E58	QNQ1070	Nut 12φ
E59	QWQ2002	Washer 8φ
E60	QWQ1133	Washer 9φ
E61	QJS1923TNL	9 Pin Connector
E62	XSN3+6S	Screw 3x6
E63	XSN3+5S	Screw 3x5
E64	XWA3B	Washer
E65	QJP1925TNL	15 Pin Plug
E66	QJP1924TNL	12 Pin Plug
E67	QTD1250XN	Cord Clamper
E68	XTW3+8B	Tapping Screw 3x8
E69	XSS3+5S	Screw 3x5
E70	XTN3+6B	Tapping Screw 3x6
E71	QJP1922TN	6 Pin Post
E72	QJP1923TN	9 Pin Post
E73	QJP1922TNL	6 Pin Post
E74	QJP1923TNL	9 Pin Post
E75	XSN3+20S	Screw 3x20
E76	QJP1924TN	12 Pin Post
E77	QJP1925TN	15 Pin Post
E78	QJP1921TN	3 Pin Post
E79	QZE0012	Crystal

Capstan Motor Section

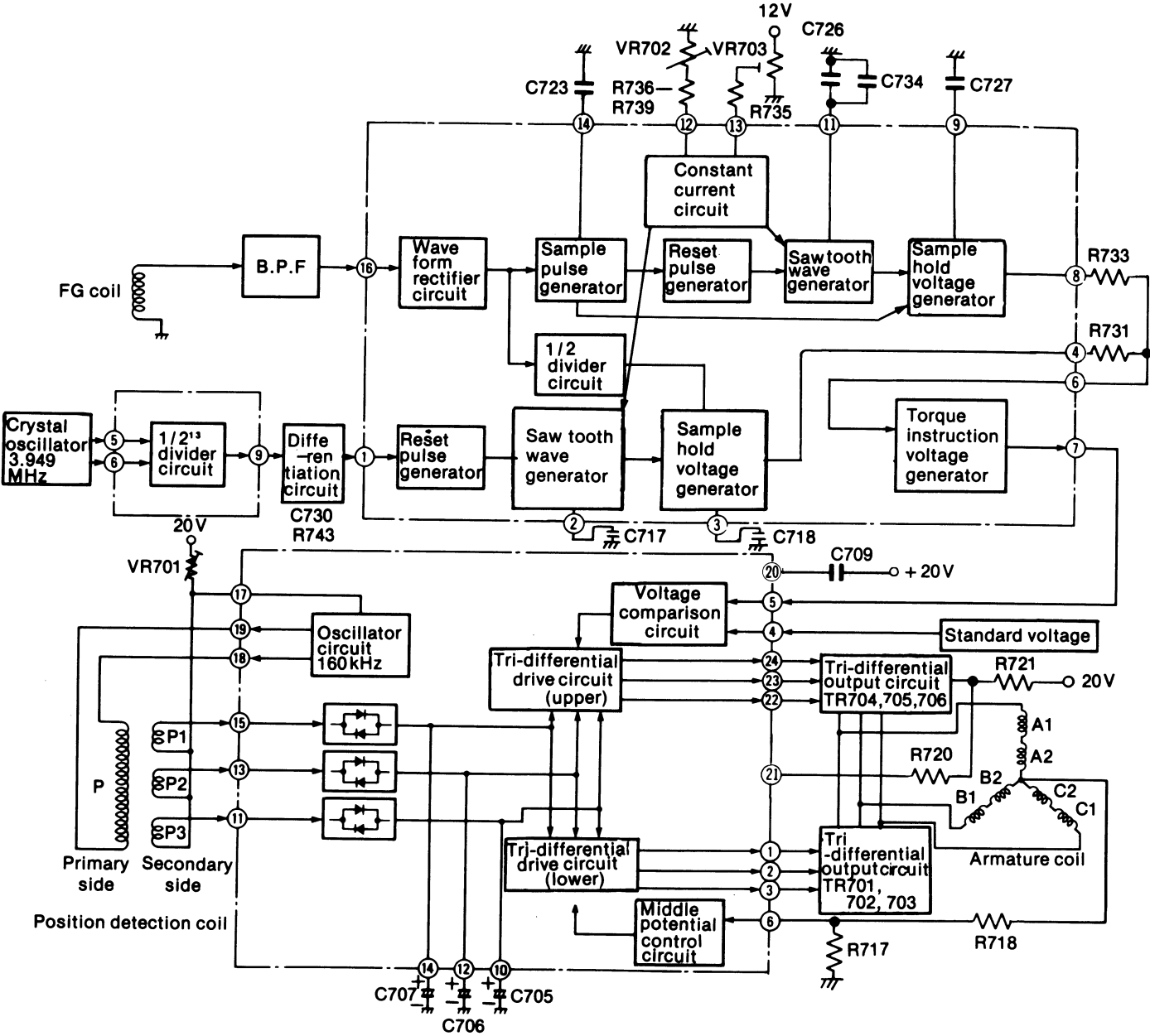
detection coil output level adjustment VR.  
ck point adjustment VR.  
DC power voltage adjustment VR.  
ms ( $\Omega$ ), 1/4 watt unless specified otherwise.  
ofarads ( $\mu$ F) unless specified otherwise.  
y parts specified by the manufacturer be used for safety.



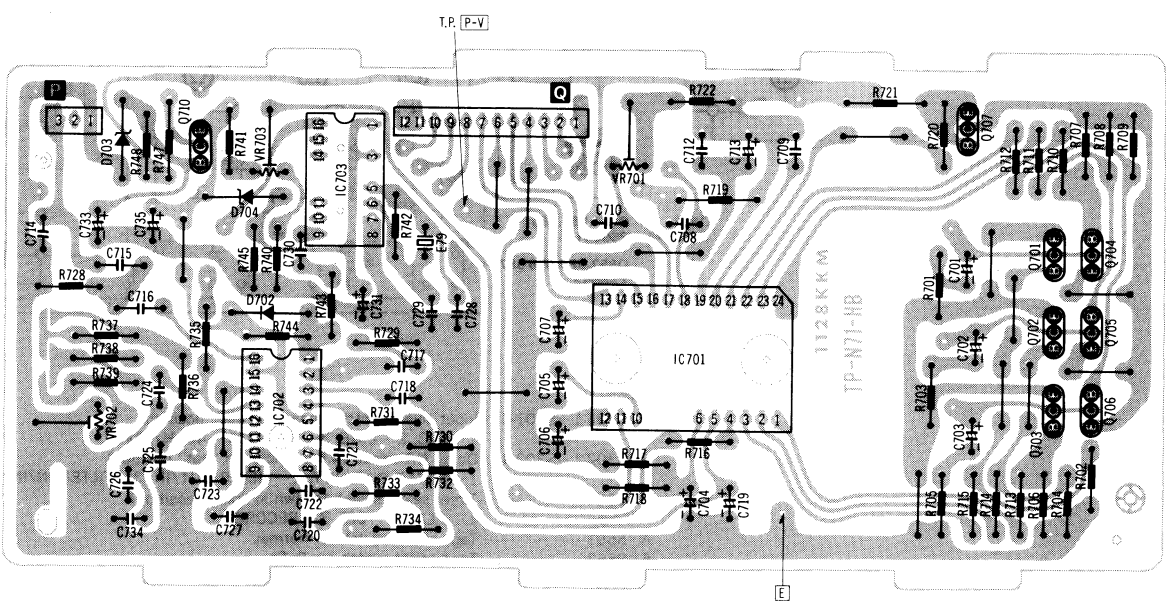
WAVE FORM IC703 and IC702 (CAPSTAN MOTOR SECTION)

Terminal No.	Measured Wave Form	Terminal No.	Measured Wave Form	Terminal No.	Measured Wave Form
IC703 5, 6	around 4.2V → Crystal signal	IC702 16	around 6V → FG signal	IC702 3, 4	around 5V →
IC703 9	around 5V → around 0V → 2ms	IC702 14	around 8V → around 0V → 1ms	IC702 6	around 6.5V →
IC702 1	around 12V → around 7V →	IC702 11	around 6V → around 0V →	IC702 7	around 7.4V →
IC702 2	around 3V → around 1.4V →	IC702 9	around 6.4V →	IC702 8	around 6.6V →

BLOCK DIAGRAM (CAPSTAN MOTOR SECTION)



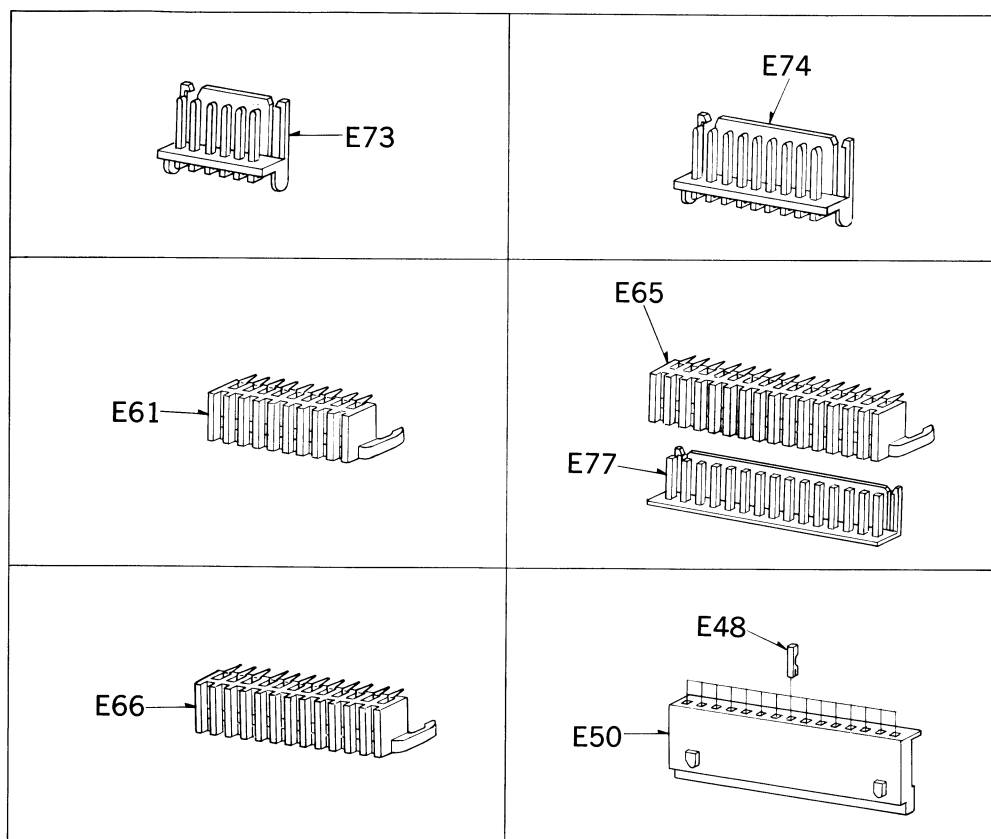
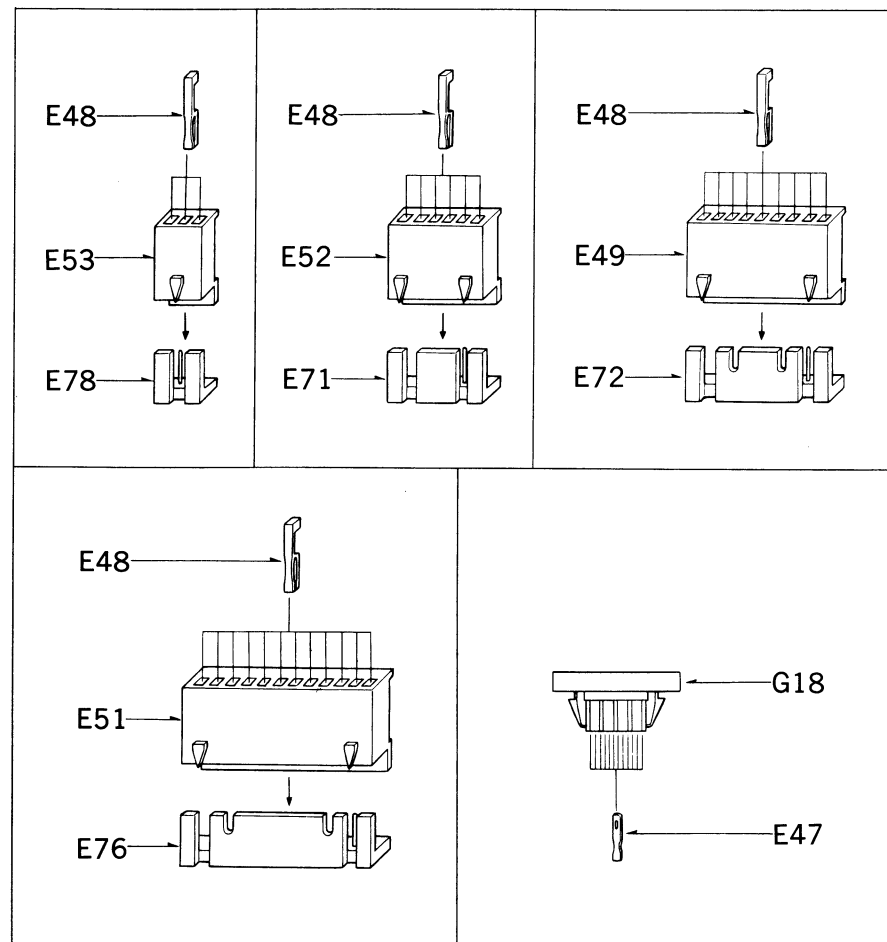
CAPSTAN MOTOR CIRCUIT BOARD



NOTE: The circuit shown in red on the conductor is +B (bias) circuit.

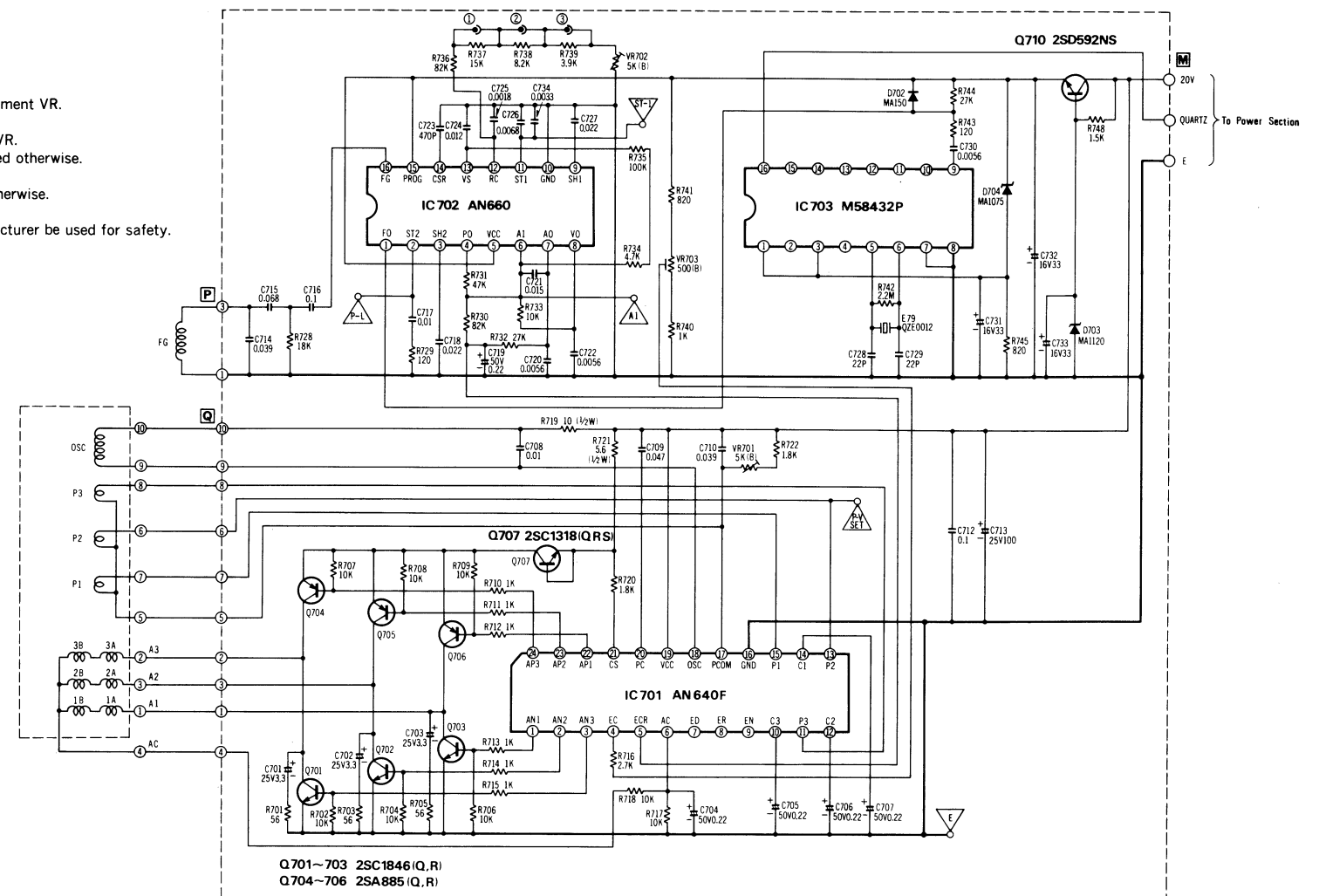
RS-M95	RS-M95
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## Capstan Motor Section


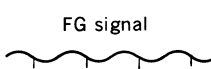
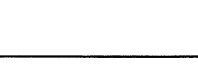
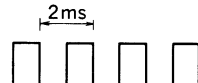
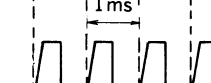
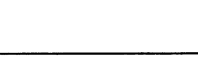
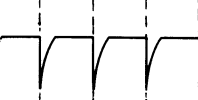
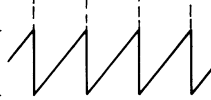
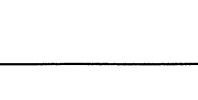

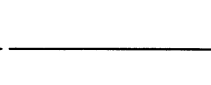
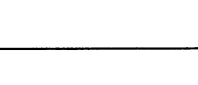


**NOTE:**

1. VR701.....Position detection coil output level adjustment VR.
2. VR702.....Phase lock point adjustment VR.
3. VR703.....Standard DC power voltage adjustment VR.
4. Resistance are in ohms ( $\Omega$ ), 1/4 watt unless specified otherwise.  
K=1,000 $\Omega$ .
5. Capacity are in microfarads ( $\mu F$ ) unless specified otherwise.  
P=Pico-farads.
6.  $\Delta$  indicates that only parts specified by the manufacturer be used for safety.

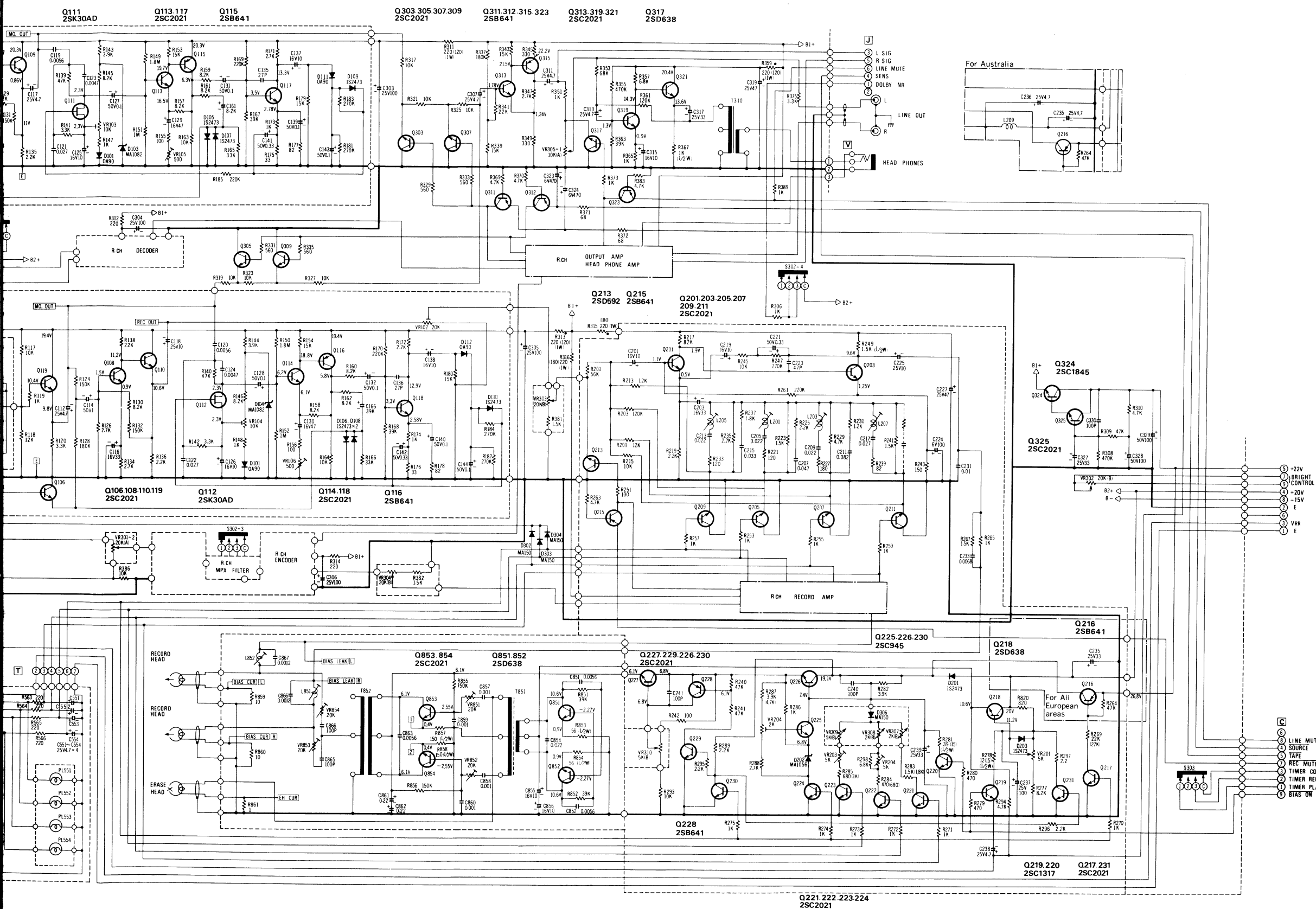


### WAVE FORM IC703 and IC702 (CAPSTAN MOTOR SECTION)

Terminal No.	Measured Wave Form	Terminal No.	Measured Wave Form	Terminal No.	Measured Wave Form
IC703 5, 6	around 4.2V →  Crystal signal	IC702 16	around 6V →  FG signal	IC702 3,4	around 5V → 
IC703 9	around 5V →  around 0V →	IC702 14	around 8V →  around 0V →	IC702 6	around 6.5V → 
IC702 1	around 12V →  around 7V →	IC702 11	around 6V →  around 0V →	IC702 7	around 7.4V → 
IC702 2	around 3V →  around 1.4V →	IC702 9	around 6.4V → 	IC702 8	around 6.6V → 

**NOTE:** The

# RS-M95



**NOTE: RESISTORS**  
 ERD --- Carbon  
 ERG --- Metal-oxide  
 ERO --- Metal-film  
 ERX --- Metal-film  
 ERQ --- Fuse type metallic  
 ERC --- Solid  
 ERF --- Cement

**CAPACITORS**  
 ECG --- Ceramic  
 ECK --- Ceramic  
 ECC --- Ceramic  
 ECF --- Ceramic  
 ECQM --- Polyester  
 ECQE --- Polyester  
 ECQF --- Polypropylene  
 ECE --- Electrolytic  
 ECE --- Non polar electrolytic  
 ECQS --- Polystyrene  
 ECS --- Tantalum

Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.
<b>RESISTORS</b>					
R1, 2	ERD25TJ101	R265, 266	ERD25TJ102	R205, 206, 209, 210	ERD25TJ103
R3, 4	ERD25TJ333			R211, 212	ERD25TJ154
R5, 6	ERD25TJ184	R267, 268	ERD25TJ152	R213, 214	ERD25TJ223
R7, 8	ERD25TJ273			R215, 216	ERD25TJ103
R9, 10	ERD25TJ124	R269	ERD25TJ273	R217, 218	ERD25TJ823
R11, 12	ERD25TJ223			R219, 220	ERD25TJ222
R13, 14	ERD25TJ101			R221, 222	ERD25TJ121
R15, 16	ERD25TJ392			R223, 224	ERD25TJ152
R17, 18	ERD25TJ101			R225, 226	ERD25TJ222
R19, 20	ERD25TJ332			R227, 228	ERD25TJ181
R21, 22	ERD25TJ822			R229, 230	ERD25TJ472
R23, 24	ERD25TJ472			R231, 232	ERD25TJ122
R25, 26	ERD25TJ562			R233, 234	ERD25TJ121
R27, 28	ERD25TJ474			R235, 236	ERD25TJ152
R29, 30	ERD25TJ153			R237, 238	ERD25TJ152
R31, 32	ERD25TJ103			R239, 240	ERD25TJ820
R33, 34	ERD25TJ153			R241, 242	ERD25TJ152
R35, 36	ERD25TJ273			R243, 244	ERD25TJ471
R37, 38	ERD25TJ101			R245, 246	ERD25TJ681
R39, 40	ERD25TJ273			R247, 248	ERD25TJ102
R41, 42	ERD25TJ153			R249, 250	ERD25TJ102
R43, 44	ERD25TJ101			R251, 252	ERD25TJ392
R45, 46	ERD25TJ104			R253, 254, 255, 256, 257, 258, 259, 260	ERD25TJ472
R47, 48	ERD25TJ683			R251, 252	ERD25TJ272
R49, 50	ERD25TJ682			R253, 254	ERD25TJ272
R51, 52	ERD25TJ472			R255, 256	ERD25TJ272
R53	ERD25TJ682			R257, 258	ERD25TJ272
R54	ERD25TJ562			R259, 260	ERD25TJ272
R55	ERD25TJ822			R261, 262	ERD25TJ272
R56	ERD25TJ682			R263, 264	ERD25TJ272
R57, 58	ERD25TJ183				
R59, 60	ERD25TJ223				
R61, 62	ERD25TJ152				
R63, 64	ERD25TJ332				
R65	ERD25TJ154				
R66	ERD25TJ474				
R67	ERD25TJ221				
R68	ERD25TJ821				
R69, 70, 71	ERD25TJ222				
R72	ERD25TJ392				
R101	ERD25TJ474				
R102	ERD25TJ101				
R103	ERD25TJ154				
R104	ERD25TJ224				
R105	ERD25TJ153				
R106	ERD25TJ184				
R107	ERD25TJ333				
R108	ERD25TJ124				
R109	ERD25TJ331				
R110	ERD25TJ332				
R111	ERD25TJ472				
R112	ERD25TJ332				
R113	ERD25TJ331				
R114	ERD25TJ271				
R115	ERD25TJ681				
R116	ERD25TJ471				
R117	ERD25TJ103				
R118	ERD25TJ123				
R119	ERD25TJ102				
R120, 121, 122	ERD25TJ332				
R123, 124	ERD25TJ154				
R241, 242	ERD25TJ152				
R243, 244	ERD25TJ151				
R245, 246	ERD25TJ103				
R247, 248	ERD25TJ274				
R249, 250	ERD25TJ152				
R251, 252	ERD25TJ101				
R253, 254, 255, 256, 257, 258, 259, 260	ERD25TJ102				
R261, 262	ERD25TJ224				
R263	ERD25TJ472				
R264	ERD25TJ473				

- VR3 ..... Test oscillator level adjustment VR at 400Hz.
- VR101 ..... Playback gain adjustment VR.
- VR102 ..... Record gain adjustment VR.
- VR103, 105 ..... Decoder (Playback DOLBY) adjustment VR.
- VR104, 106 ..... Encoder (Record DOLBY) adjustment VR.
- VR201 ..... Erase current adjustment VR at metal position.
- VR202 ..... Bias current adjustment VR at Fe-Cr position.
- VR203 ..... Bias current adjustment VR at CrO<sub>2</sub> position.
- VR204 ..... Bias current adjustment VR at Metal position.
- VR301 ..... Input level control.
- VR302 ..... Meter light control.
- VR303, 304 ..... Record calibration control.
- VR305 ..... Output level control.
- VR307 ..... Bias current adjustment control for normal tape.
- VR308 ..... Bias current adjustment control for Fe-Cr tape.
- VR309 ..... Bias current adjustment control for CrO<sub>2</sub> tape.
- VR310 ..... Bias current adjustment control for metal tape.
- VR851, 852 ..... Bias wave form correction VR at metal position.
- VR853, 854 ..... Bias wave form correction VR at normal position.
- L201, 202 ..... Record equalizer adjustment coil for CrO<sub>2</sub> tape.
- L203, 204 ..... Record equalizer adjustment coil for Fe-Cr tape.
- L205, 206 ..... Record equalizer adjustment coil for metal tape.

- L207, 208 ..... Record equalizer adjustment coil for normal tape.
- L851, 852 ..... Bias leakage adjustment coil.
- The resistance ( ) show for Australia.
- Resistance are in ohms (Ω), 1/4 watt unless specified otherwise.
- K = 1,000Ω.
- Capacity are in microfarads (μF) unless specified otherwise.
- P = Pico-farads.
- All voltage values shown in circuitry are under no signal condition with volume control at minimum position.

ENTER IN/IN.



The diagram illustrates a complex stereo system circuit, likely for a portable or semi-portable device. It is organized into several functional blocks, each enclosed in a dashed line:

- Microphone Section (Q5, Q7, Q9, Q10, Q11, Q12, Q13, Q14, Q15, Q16, Q17, Q18, Q19, Q20, Q21, Q22, Q23, Q24, Q25, Q26, Q27, Q28, Q29, Q30, Q31, Q32, Q33, Q34, Q35, Q36, Q37, Q38, Q39, Q40, Q41, Q42, Q43, Q44, Q45, Q46, Q47, Q48, Q49, Q50, Q51, Q52, Q53, Q54, Q55, Q56, Q57, Q58, Q59, Q60, Q61, Q62, Q63, Q64, Q65, Q66, Q67, Q68, Q69, Q70, Q71, Q72, Q73, Q74, Q75, Q76, Q77, Q78, Q79, Q80, Q81, Q82, Q83, Q84, Q85, Q86, Q87, Q88, Q89, Q90, Q91, Q92, Q93, Q94, Q95, Q96, Q97, Q98, Q99, Q100, Q101, Q102, Q103, Q104, Q105, Q106, Q107, Q108, Q109, Q110, Q111, Q112, Q113, Q114, Q115, Q116, Q117, Q118, Q119, Q120, Q121, Q122, Q123, Q124, Q125, Q126, Q127, Q128, Q129, Q130, Q131, Q132, Q133, Q134, Q135, Q136, Q137, Q138, Q139, Q140, Q141, Q142, Q143, Q144, Q145, Q146, Q147, Q148, Q149, Q150, Q151, Q152, Q153, Q154, Q155, Q156, Q157, Q158, Q159, Q160, Q161, Q162, Q163, Q164, Q165, Q166, Q167, Q168, Q169, Q170, Q171, Q172, Q173, Q174, Q175, Q176, Q177, Q178, Q179, Q180, Q181, Q182, Q183, Q184, Q185, Q186, Q187, Q188, Q189, Q190, Q191, Q192, Q193, Q194, Q195, Q196, Q197, Q198, Q199, Q200, Q201, Q202, Q203, Q204, Q205, Q206, Q207, Q208, Q209, Q210, Q211, Q212, Q213, Q214, Q215, Q216, Q217, Q218, Q219, Q220, Q221, Q222, Q223, Q224, Q225, Q226, Q227, Q228, Q229, Q230, Q231, Q232, Q233, Q234, Q235, Q236, Q237, Q238, Q239, Q240, Q241, Q242, Q243, Q244, Q245, Q246, Q247, Q248, Q249, Q250, Q251, Q252, Q253, Q254, Q255, Q256, Q257, Q258, Q259, Q260, Q261, Q262, Q263, Q264, Q265, Q266, Q267, Q268, Q269, Q270, Q271, Q272, Q273, Q274, Q275, Q276, Q277, Q278, Q279, Q280, Q281, Q282, Q283, Q284, Q285, Q286, Q287, Q288, Q289, Q290, Q291, Q292, Q293, Q294, Q295, Q296, Q297, Q298, Q299, Q300, Q301, Q302, Q303, Q304, Q305, Q306, Q307, Q308, Q309, Q310, Q311, Q312, Q313, Q314, Q315, Q316, Q317, Q318, Q319, Q320, Q321, Q322, Q323, Q324, Q325, Q326, Q327, Q328, Q329, Q330, Q331, Q332, Q333, Q334, Q335, Q336, Q337, Q338, Q339, Q340, Q341, Q342, Q343, Q344, Q345, Q346, Q347, Q348, Q349, Q350, Q351, Q352, Q353, Q354, Q355, Q356, Q357, Q358, Q359, Q360, Q361, Q362, Q363, Q364, Q365, Q366, Q367, Q368, Q369, Q370, Q371, Q372, Q373, Q374, Q375, Q376, Q377, Q378, Q379, Q380, Q381, Q382, Q383, Q384, Q385, Q386, Q387, Q388, Q389, Q390, Q391, Q392, Q393, Q394, Q395, Q396, Q397, Q398, Q399, Q400, Q401, Q402, Q403, Q404, Q405, Q406, Q407, Q408, Q409, Q410, Q411, Q412, Q413, Q414, Q415, Q416, Q417, Q418, Q419, Q420, Q421, Q422, Q423, Q424, Q425, Q426, Q427, Q428, Q429, Q430, Q431, Q432, Q433, Q434, Q435, Q436, Q437, Q438, Q439, Q440, Q441, Q442, Q443, Q444, Q445, Q446, Q447, Q448, Q449, Q450, Q451, Q452, Q453, Q454, Q455, Q456, Q457, Q458, Q459, Q460, Q461, Q462, Q463, Q464, Q465, Q466, Q467, Q468, Q469, Q470, Q471, Q472, Q473, Q474, Q475, Q476, Q477, Q478, Q479, Q480, Q481, Q482, Q483, Q484, Q485, Q486, Q487, Q488, Q489, Q490, Q491, Q492, Q493, Q494, Q495, Q496, Q497, Q498, Q499, Q500, Q501, Q502, Q503, Q504, Q505, Q506, Q507, Q508, Q509, Q510, Q511, Q512, Q513, Q514, Q515, Q516, Q517, Q518, Q519, Q520, Q521, Q522, Q523, Q524, Q525, Q526, Q527, Q528, Q529, Q530, Q531, Q532, Q533, Q534, Q535, Q536, Q537, Q538, Q539, Q540, Q541, Q542, Q543, Q544, Q545, Q546, Q547, Q548, Q549, Q550, Q551, Q552, Q553, Q554, Q555, Q556, Q557, Q558, Q559, Q560, Q561, Q562, Q563, Q564, Q565, Q566, Q567, Q568, Q569, Q570, Q571, Q572, Q573, Q574, Q575, Q576, Q577, Q578, Q579, Q580, Q581, Q582, Q583, Q584, Q585, Q586, Q587, Q588, Q589, Q590, Q591, Q592, Q593, Q594, Q595, Q596, Q597, Q598, Q599, Q600, Q601, Q602, Q603, Q604, Q605, Q606, Q607, Q608, Q609, Q610, Q611, Q612, Q613, Q614, Q615, Q616, Q617, Q618, Q619, Q620, Q621, Q622, Q623, Q624, Q625, Q626, Q627, Q628, Q629, Q630, Q631, Q632, Q633, Q634, Q635, Q636, Q637, Q638, Q639, Q640, Q641, Q642, Q643, Q644, Q645, Q646, Q647, Q648, Q649, Q650, Q651, Q652, Q653, Q654, Q655, Q656, Q657, Q658, Q659, Q660, Q661, Q662, Q663, Q664, Q665, Q666, Q667, Q668, Q669, Q670, Q671, Q672, Q673, Q674, Q675, Q676, Q677, Q678, Q679, Q680, Q681, Q682, Q683, Q684, Q685, Q686, Q687, Q688, Q689, Q690, Q691, Q692, Q693, Q694, Q695, Q696, Q697, Q698, Q699, Q700, Q701, Q702, Q703, Q704, Q705, Q706, Q707, Q708, Q709, Q710, Q711, Q712, Q713, Q714, Q715, Q716, Q717, Q718, Q719, Q720, Q721, Q722, Q723, Q724, Q725, Q726, Q727, Q728, Q729, Q730, Q731, Q732, Q733, Q734, Q735, Q736, Q737, Q738, Q739, Q740, Q741, Q742, Q743, Q744, Q745, Q746, Q747, Q748, Q749, Q750, Q751, Q752, Q753, Q754, Q755, Q756, Q757, Q758, Q759, Q760, Q761, Q762, Q763, Q764, Q765, Q766, Q767, Q768, Q769, Q770, Q771, Q772, Q773, Q774, Q775, Q776, Q777, Q778, Q779, Q780, Q781, Q782, Q783, Q784, Q785, Q786, Q787, Q788, Q789, Q790, Q791, Q792, Q793, Q794, Q795, Q796, Q797, Q798, Q799, Q800, Q801, Q802, Q803, Q804, Q805, Q806, Q807, Q808, Q809, Q810, Q811, Q812, Q813, Q81**

31. L207, 208 .....Record equalizer adjustment coil for normal tape.
32. L851, 852 .....Bias leakage adjustment coil.
33. The resistance ( ) show for Australia.
34. Resistance are in ohms ( $\Omega$ ), 1/4 watt unless specified otherwise.  
K=1,000 $\Omega$ .
35. Capacity are in microfarads ( $\mu F$ ) unless specified otherwise.  
P=Pico-farads.
36. All voltage values shown in circuitry are under no signal condition with volume control at minimum position.



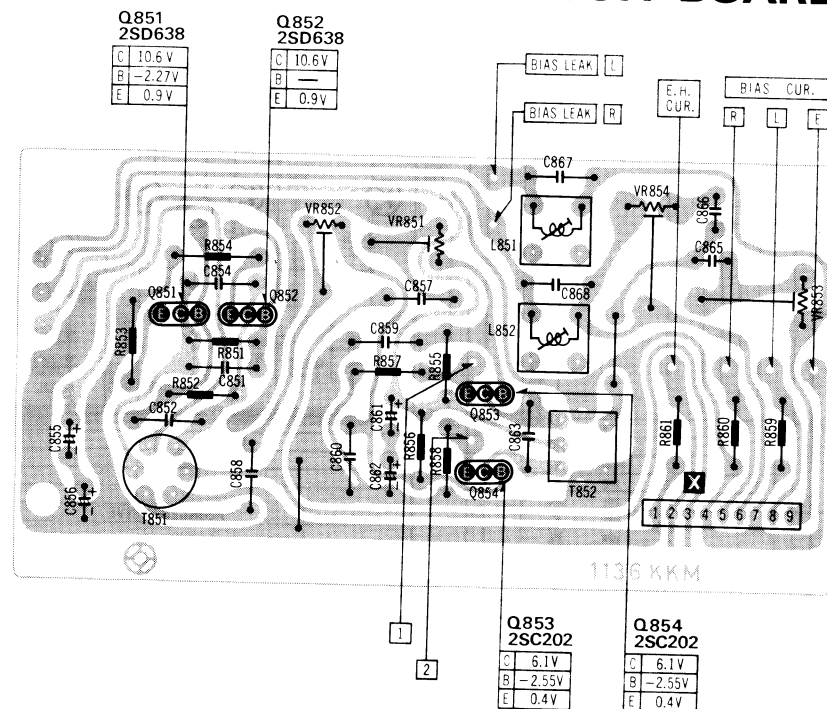
**NOTE:**  $\Delta$  indicates that only parts specified by the manufacturer be used for safety.

Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.
R347, 348	ERD25TJ272	R463	ERD25TJ101	R645	ERD25TJ272	R818	ERD25TJ154	R953, 954	ERD25TJ682	VR906, 907	EVNK4AA00B14	C211, 212	ECQM05823KZ
R349, 350	ERD25TJ331	R464	ERD25TJ473	R646	ERD25TJ103	R819	ERD25TJ153	R955, 956	ERD25CKF1001	<b>CAPACITORS</b>			
R351, 352	ERD25TJ102	R465	ERD25TJ562	R647	ERG12ANJ181	R820	ERG1ANJ471	R957, 958	ERD25TJ122	C1, 2	ECQS1331JZ	C213, 214	ECQM05223KZ
R353, 354	ERD25TJ683	R466, 467	ERG12ANJ562	R648	ERD25TJ272	R821	ERX1ANJR47	R959, 960	ERD25CKF8202	C3, 4	ECQS1101JZ	C215, 216	ECQM05473KZ
R355, 356	ERD25TJ474	R469	ERG12ANJ153	R649	ERD25TJ473	R822	ERD25TJ101	R961, 962	ERD25CKF1502	C5, 6	ECKD1H102K	C217, 218	ECQM05273KZ
R357, 358	ERD25TJ682	R470, 471	ERG12ANJ153	R650, 651	ERD25TJ472	R823	ERD25TJ123	R963, 964	ERD25TJ102	C7, 8	ECEA0JS221	C219, 220	ECEA1HS100
R359, 360	ERGIANJ221	R472	ERD25TJ473	R661	ERD25TJ473	R824	ERD25TJ332	R965, 966	ERD25TJ123	C9, 10	ECEA1HS470	C221, 222	ECEA50ZR33
*For All European areas.	ERGIANJ121	R473	ERD25TJ562	R662	ERD25TJ101	*For All European areas.	ERG12ANJ122	R967, 968	ERD25TJ391	C11, 12	ECEA1HS101	C223, 224	ECCD1H470K
*For Australia.	ERGIANJ121	R474	ERD25TJ473	R663, 664	ERD25TJ273	*For Australia.	ERD25TJ471	R970	ERD25TJ683	C13, 14	ECCD1H470K	C225, 226	ECEA1ES100
R361, 362	ERD25TJ124	R475	ERD25TJ562	R665	ERD25TJ332	R825	ERD25TJ121	R971	ERD25TJ333	C15, 16	ECQM05102KZ	C227, 228	ECEA1ES470
R363, 364	ERD25TJ393	R476	ERD25TJ224	R666	ERD25TJ332	*For All European areas.	ERD25TJ121	R972	ERD25TJ102	C17, 18	ECQM05273JZ	C229, 230	ECEA1AS101
R365, 366	ERD25TJ102	R478, 479	ERG12HJ180	R667	ERD25TJ272	R827	ERD25TJ152	R973, 974, 975	ERD25TJ683	C19, 20	ECEA1ES470	C231, 232	ECQM05103KZ
R367, 368	ERG12ANJ102	*For All European areas.	ERD25TJ270	R668	ERD25TJ473	*For Australia.	ERD25TJ152	R977	ERD25TJ391	C21, 22	ECCD1H331K	C233, 234	ECQM05682KZ
R369, 370	ERD25TJ472	*For Australia.	ERD25TJ102	R669	ERD25TJ473	*For All European areas.	ERD25TJ272	R978, 979	ERD25TJ101	C23, 24	ECEA1HS100	C235	ECEA1ES330
R371, 372	ERD25TJ680	R487	ERD25TJ153	R670	ERD25TJ181	R828	ERX2ANJ47R	R980, 981	ERD25TJ473	C25, 26, 27, 28	ECQM05182KZ	C236	ECEA1ES470
R373, 374	ERD25TJ102	R488	ERD25TJ153	R671	ERD25TJ473	R829	ERG12ANJ331	R982	ERD25TJ102	C29, 30	ECQS101JZ	C237	ECEA1ES470
R375, 376	ERD25TJ332	R489	ERD25TJ471	R672	ERD25TJ181	R830	ERD25TJ222	R984, 985, 986	ERD25TJ153	C31, 32	ECQM05472KZ	C238	ECEA1ES470
R377, 378	ERD25TJ222	R490	ERD25TJ471	R673, 674	ERD25TJ273	R831, 852	ERD25TJ393	R987	ERD25TJ102	C33, 34	ECEA25M47R	C239	ECEA1ES470
R379, 380	ERD25TJ224	R491	ERD25TJ471	R675, 676	ERD25TJ331	R853, 854	ERG12ANJ680	R988	ERD25TJ223	C35, 36	ECCD1H102K	C240, 241	ECEA1ES470
R381, 382	ERD25TJ152	R492	ERD25TJ392	R677	ERD25TJ473	*For All European areas.	ERG12ANJ560	R989	ERD25TJ222	C37, 38	ECEA1AS101	C242	ECEA1ES470
R383	ERD25TJ472	R493	ERD25TJ123	R678	ERD25TJ103	*For Australia.	ERG12ANJ560	R990	ERD25TJ103	C39, 40	ECCD1H470K	C243	ECEA1ES470
R384, 385, 386	ERD25TJ103	R494	ERD25TJ472	R679, 680	ERD25TJ103	R855, 856	ERD25TJ154	R991	ERD25TJ562	C41, 42	ECEA50M1	C244	ECEA1ES470
R387	ERD25TJ470	R495	ERD25TJ473	R679, 680	ERD25TJ103	R857, 858	ERG12ANJ151	R992	ERD25TJ473	C43	ECQM05223KZ	C245	ECEA1ES470
R388	ERD25TJ332	R496	ERD25TJ102	R679, 680	ERD25TJ103	*For All European areas.	ERG12ANJ151	R993	ERD25TJ103	C44	ECQM05122KZ	C246	ECEA1ES470
R389	ERD25TJ102	R497	ERD25TJ104	R679, 680	ERD25TJ103	R859, 860	ERD25TJ100	R995	ERD25TJ393	C45	ECQM05223KZ	C247	ECEA1ES470
R401	ERD25TJ562	R498	ERD25TJ153	R679, 680	ERD25TJ103	R861	ERD25TJ100	R1001, 1002	ERD25TJ682	C46	ECQM05122KZ	C248	ECEA1ES470
R402	ERD25TJ101	R499	ERD25TJ104	R679, 680	ERD25TJ103	*For Australia.	ERD25TJ100	R1003, 1004	ERD25TJ473	C47	ECQM05223KZ	C249	ECEA1ES470
R403	ERD25TJ562	R500	ERD25TJ332	R679, 680	ERD25TJ103	R861	ERD25TJ100	R1006, 1007	ERD25TJ102	C48	ECQM05122KZ	C250	ECEA1ES470
R404	ERD25TJ101	R501	ERD25TJ332	R679, 680	ERD25TJ103	R901, 902	ERD25TJ104	R1008, 1009	ERD25TJ102	C49	ECQM05122KZ	C251	ECEA1ES470
R405	ERD25TJ562	R502	ERD25TJ332	R679, 680	ERD25TJ103	R903, 904	ERD25TJ102	R1010, 1011, 1012, 1013, 1014, 1015, 1016, 1017	ERD25TJ102	C50	ECQM05122KZ	C252	ECEA1ES470
R406	ERD25TJ101	R503	ERD25TJ332	R679, 680	ERD25TJ103	R905, 906	ERD25TJ222	R1018	ERD25TJ222	C51	ECQM05122KZ	C253	ECEA1ES470
R407	ERD25TJ562	R504	ERD25TJ332	R679, 680	ERD25TJ103	R907, 908	ERD25TJ221	R1019	ERG12ANJ390	C52	ECQM05122KZ	C254	ECEA1ES470
R408	ERD25TJ101	R505	ERD25TJ332	R679, 680	ERD25TJ103	R909	ERD25TJ682	R1021, 1022, 1023, 1024, 1025, 1026, 1027, 1028, 1029, 1030, 1031, 1032, 1033	ERD25TJ473	C53	ECQM05122KZ	C255	ECEA1ES470
R409	ERD25TJ562	R506	ERD25TJ102	R679, 680	ERD25TJ103	R910	ERD25TJ392	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C54	ECQM05122KZ	C256	ECEA1ES470
R410	ERD25TJ101	R507	ERD25TJ473	R679, 680	ERD25TJ103	R911, 912, 913, 914	ERD25TJ472	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C55	ECQM05122KZ	C257	ECEA1ES470
R411	ERD25TJ562	R508	ERD25TJ102	R679, 680	ERD25TJ103	R915, 916	ERD25TJ223	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C56	ECQM05122KZ	C258	ECEA1ES470
R412	ERD25TJ101	R509	ERD25TJ562	R679, 680	ERD25TJ103	R917, 918	ERD25TJ473	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C57	ECQM05122KZ	C259	ECEA1ES470
R414	ERD25TJ331	R510	ERG12ANJ222	R679, 680	ERD25TJ103	R919, 920	ERD25TJ102	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C58	ECQM05122KZ	C260	ECEA1ES470
R415	ERD25TJ272	R511	ERG12ANJ471	R679, 680	ERD25TJ103	R921, 922	ERD25TJ103	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C59	ECQM05122KZ	C261	ECEA1ES470
R416	ERD25TJ332	R512	ERG12ANJ182	R679, 680	ERD25TJ103	R923, 924	ERD25TJ472	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C100, 102	ECQM05122KZ	C262	ECEA1ES470
R418	ERD25TJ272	R513	ERG12ANJ182	R679, 680	ERD25TJ103	R925, 926	ERD25TJ223	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C103	ECQM05122KZ	C263	ECEA1ES470
R419, 421	ERD25TJ332	R514	ERG12ANJ182	R679, 680	ERD25TJ103	R927, 928	ERD25TJ153	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C104	ECQM05122KZ	C264	ECEA1ES470
R422	ERD25TJ272	R515	ERG12ANJ182	R679, 680	ERD25TJ103	R929, 930	ERD25TJ334	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C105	ECQM05122KZ	C265	ECEA1ES470
R423, 424, 425	ERD25TJ473	R516	ERG12ANJ182	R679, 680	ERD25TJ103	R931, 932	ERD25TJ154	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C106	ECQM05122KZ	C266	ECEA1ES470
R426, 428, 429, 430	ERD25TJ273	R517	ERG12ANJ182	R679, 680	ERD25TJ103	R933, 934	ERD25TJ102	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C107	ECQM05122KZ	C267	ECEA1ES470
R431	ERD25TJ153	R518	ERG12ANJ182	R679, 680	ERD25TJ103	R935, 936	ERD25TJ331	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C108	ECQM05122KZ	C268	ECEA1ES470
R433, 434	ERD25TJ473	R519	ERG12ANJ182	R679, 680	ERD25TJ103	R937, 938	ERD25TJ824	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C109	ECQM05122KZ	C269	ECEA1ES470
R435	ERD25TJ562	R520	ERG12ANJ182	R679, 680	ERD25TJ103	R939, 940	ERD25TJ102	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C110	ECQM05122KZ	C270	ECEA1ES470
R436	ERD25TJ103	R521	ERG12ANJ182	R679, 680	ERD25TJ103	R941, 942	ERD25TJ223	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C111, 112	ECQM05122KZ	C271	ECEA1ES470
R437	ERD25TJ473	R522	ERG12ANJ182	R679, 680	ERD25TJ103	R943, 944	ERD25TJ224	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C113, 114	ECQM05122KZ	C272	ECEA1ES470
R438	ERD25TJ183	R523	ERG12ANJ182	R679, 680	ERD25TJ103	R945, 946	ERD25TJ102	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C115	ECQM05122KZ	C273	ECEA1ES470
R439	ERD25TJ681	R524	ERG12ANJ182	R679, 680	ERD25TJ103	R947, 948, 949, 950	ERD25CKF1001	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C116	ECQM05122KZ	C274	ECEA1ES470
R440	ERD25TJ153	R525	ERG12ANJ182	R679, 680	ERD25TJ103	R951, 952	ERD25TJ102	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C117	ECQM05122KZ	C275	ECEA1ES470
R441, 442	ERD25TJ562	R526	ERG12ANJ182	R679, 680	ERD25TJ103	R953, 954	ERD25TJ682	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C118	ECQM05122KZ	C276	ECEA1ES470
R443	ERD25TJ473	R527	ERG12ANJ182	R679, 680	ERD25TJ103	R955, 956	ERD25CKF1001	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C119, 120	ECQM05122KZ	C277	ECEA1ES470
R444	ERD25TJ103	R528	ERG12ANJ182	R679, 680	ERD25TJ103	R957, 958	ERD25TJ122	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C121, 122	ECQM05122KZ	C278	ECEA1ES470
R445	ERD25TJ331	R529	ERG12ANJ182	R679, 680	ERD25TJ103	R959, 960	ERD25CKF8202	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C123, 124	ECQM05122KZ	C279	ECEA1ES470
R446	ERD25TJ153	R530	ERG12ANJ182	R679, 680	ERD25TJ103	R961, 962	ERD25TJ102	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C125, 126	ECQM05122KZ	C280	ECEA1ES470
R447, 448	ERD25TJ331	R531	ERG12ANJ182	R679, 680	ERD25TJ103	R963, 964	ERD25TJ102	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C127, 128	ECQM05122KZ	C281	ECEA1ES470
R449	ERD25TJ473	R532	ERG12ANJ182	R679, 680	ERD25TJ103	R965, 966	ERD25TJ123	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C129, 130	ECQM05122KZ	C282	ECEA1ES470
R450	ERD25TJ103	R533	ERG12ANJ182	R679, 680	ERD25TJ103	R967, 968	ERD25TJ391	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C131, 132	ECQM05122KZ	C283	ECEA1ES470
R451, 453	ERD25TJ473	R534	ERG12ANJ182	R679, 680	ERD25TJ103	R969, 970	ERD25TJ683	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C133, 134	ECQM05122KZ	C284	ECEA1ES470
R454	ERD25TJ473	R535	ERG12ANJ182	R679, 680	ERD25TJ103	R971	ERD25TJ333	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C135, 136	ECQM05122KZ	C285	ECEA1ES470
R455	ERD25TJ821	R536	ERG12ANJ182	R679, 680	ERD25TJ103	R972	ERD25TJ102	R1034, 1035, 1036, 1037, 1038, 1039	ERD25TJ473	C137, 138	ECQM05122KZ	C286	ECEA1ES470
R456	ERD25TJ473	R537	ERG12ANJ182	R679, 680	ERD25TJ103	R973, 974, 975	ERD25TJ683	R1034, 1035, 1036, 1037, 1038					

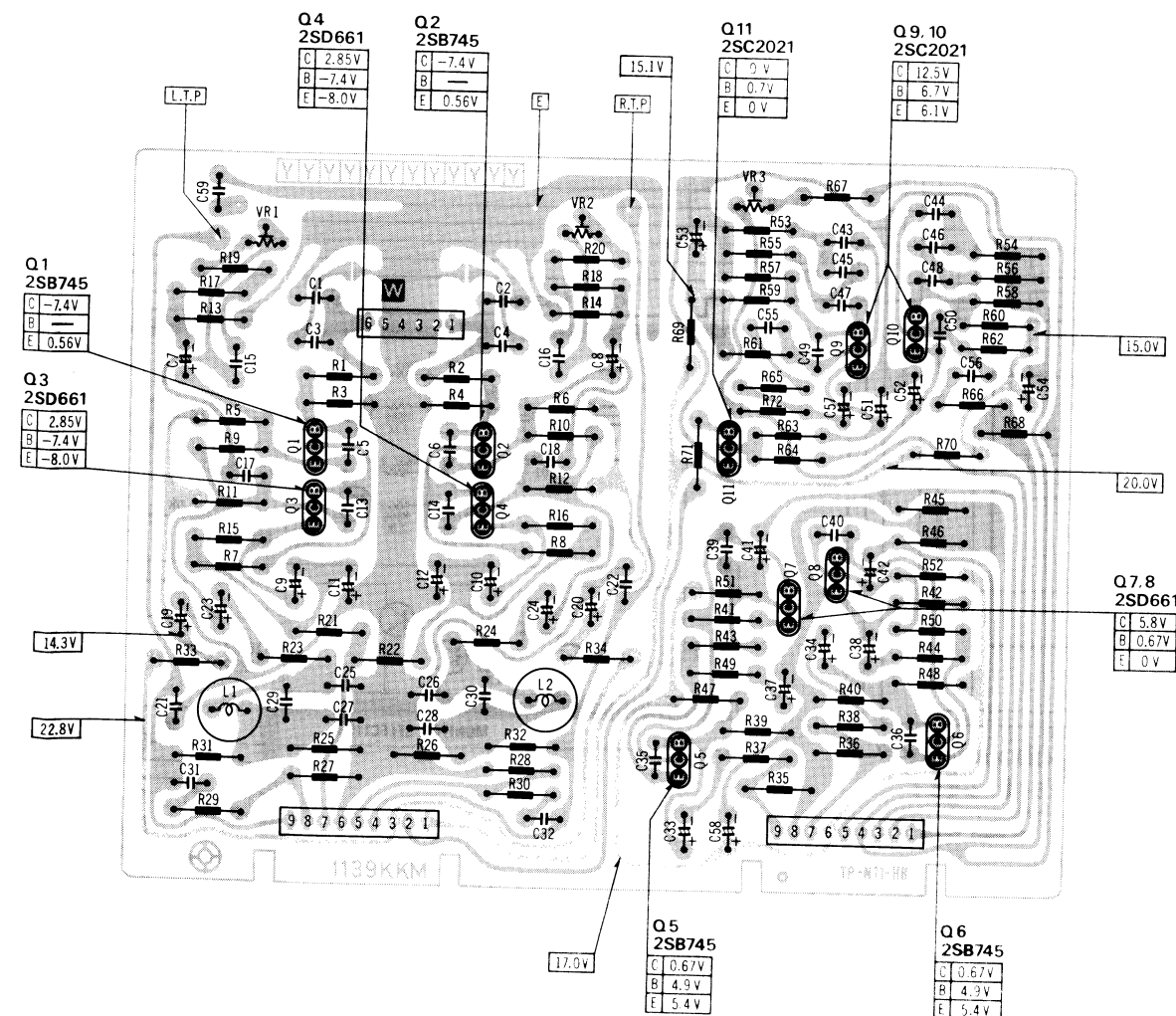
Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.	Part Name & Description
C631, 632	ECEA1HS100	Z802	Δ B4BC0802	Q552	2SA719	D603	MV121	T1	Δ QLPD38ENX	AC Power Transformer				
C633	ECEA1HS010	Z803	Δ QCR0011	Q553	2SA564	D604	MA161	*For All European areas except	QLPN49ENX	United Kingdom.				
C661	ECEA1AS470	<b>TRANSISTORS</b>			Q554	2SA719	D606	MA161						
C662, 663, 664, 665	ECFWD104MY	Q1, 2	2SA721	Q555	2SA564	D631	MA161	*For United Kingdom and Australia.						
C666	ECKD1H103ZF	Q3, 4	2SC1327	Q556, 557	2SA719	D632	OA90Z	T310, 311	QLT2D26X	Headphones Transformer				
C701, 702, 703	ECEA25Z3R3	Q5, 6	2SA721	Q601, 602, 603	2SC1317	D633	SM112	T851	QLB0191	Oscillation Transformer				
C704	ECEA50ZR47	Q7, 8	2SC1327	Q605	2SC1846	D634	OA90Z	T852	QLB0190	RF Output Transformer				
C705, 706, 707	ECEA50ZR22	Q9, 10, 11	2SC1684	Q606	2SC1383	D635	SM102							
C708	ECQM05103KZ	Q101	2SA564	Q607, 608, 609, 610, 611	2SC1684	D661	LN16BP							
C709	ECQM05473KZ	Q102, 103, 104	2SC1327	Q612	2SA886	D662	LN32							
C710	ECQM05393KZ	Q105, 106, 107, 108, 109, 110	2SC1684	Q613	2SC1684	D702	MA161							
C712	ECFWD104MY	Q111, 112	2SK30AD	Q614	2SA886	D703	MA1120							
C713	ECEA25Z100	Q113, 114	2SC1684	Q615, 616	2SC1684	D704	MA1075							
C714	ECQM05393KZ	Q115, 116	2SC1684	Q617	2SA719	D801, 802, 803, 804	Δ SM102							
C715	ECQM05683KZ	Q117, 118, 119	2SA564	Q618	2SC1684	D805, 806	Δ RVD10DC2							
C716	ECQM05104KZ	Q201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212	2SC1684	Q619	2SA719	D807, 808	Δ RVD10DC2R							
C717	ECQM05103KZ	Q213, 214	2SC2021SF	Q620	2SC1684	D809, 810, 811, 812	Δ SM102							
C718	ECQM05223KZ	Q215	2SC1383	Q621, 622	2SA564	D813	MA1075							
C719	ECEA50ZR22	Q216	2SA564	Q623, 624, 625, 626, 627	2SC1684	D814	MA150							
C720	ECQM05562KZ	Q217	2SC2021SF	Q628, 629	2SA564	D815	SM112							
C721	ECQM05153KZ	Q218	2SC1846	Q701, 702, 703	2SC1318	D816	MA161							
C722	ECQM05562KZ	Q219, 220	2SC1317	Q704, 705, 706	2SA885	D817	MA161							
C723	ECKD1H471K	Q221, 222, 223, 224	2SC2021SF	Q707	2SC1318	D901, 902	MA161							
C724	ECQM05123KZ	Q225	2SC1846	Q710	2SD592NSR	D903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916	MA161							
C725	ECQM05182KZ	Q226	2SC1383	Q801	2SD389P	D1001, 1002	MA161							
C726	ECQS1682JZ	Q227	2SC2021SF	Q802	2SC2021FR	D1003	MA1047							
C727	ECQM05223KZ	Q228	2SA564	Q803	2SC1684	D1004, 1005	1S2473							
C728, 729	ECCD1H220K	Q229	2SC2021SF	Q804	2SD592NCR	<b>INTEGRATED CIRCUITS</b>								
C730	ECQM05562KZ	Q230	2SC945P	Q805	2SC1684	IC401	AN6251							
C731, 732, 733	ECEA1HS330	Q231	2SC2021SF	Q806	2SA564	IC402, 403, 404	M53200P							
C734	ECQM05332KZ	Q232	2SC2021SF	Q807	2SA886	IC405	M53273P							
C801	Δ ECET50R222S	Q233	2SC2021SF	Q808	2SD839P	IC601	M5200P							
C802	Δ ECEA1HS221	Q234	2SC1317	Q809	2SC1317	IC701	AN640F							
C803	ECEA1HS101	Q235	2SC1846	Q810	2SC1684	IC702	AN660							
C804	ECEA1ES221	Q236	2SC2021SF	Q811	2SC1846	IC703	M58432P							
C805	ECEA1HS101	Q237	2SC1317	Q812	2SA564	IC901, 902	AN6870							
C806	ECEA1HS101	Q238	2SC1317	Q851, 852	2SC1317	IC903, 904, 905, 906	UPC4558C							
C807	ECEA1HS101	Q239	2SC1317	Q853, 854	2SC2021SF	IC907, 908	TA7506P							
C808	Δ ECEA1HS222	Q240	2SC1317	Q901, 902	2SC1684	IC909, 910	UPC4558C							
C809	ECEA1AS101	Q241	2SC1317	Q903, 904, 905, 906, 907, 908, 909, 910	2SD636R	IC911	M53273P							
C810	Δ ECET25R472S	Q242	2SC1317	Q911, 912, 913, 914	2SA564	IC1001	MN1430RT							
C811	Δ ECEA1HS222	Q243	2SC1317	Q915	2SC1684	IC1002, 1003	DN6838							
C813	ECEA1HS221	Q244	2SC1317	Q916	2SC945P									
C814	ECEA1HS010	Q245	2SC1317	Q917	2SC1684									
C815, 816	ECKD1H102K	Q246	2SC1317	Q918	2SA564									
C817	ECKD1H222K	Q247	2SC1317	Q919	2SC1684									
C851, 852	ECQF6562KZH	Q248	2SC1317	Q1001	2SA564									
C854	ECQF6562KZH	Q249	2SC1317	Q1002	2SC1684									
C855, 856	ECEA1HS100	Q250	2SC1317											
C857, 858, 859, 860	ECQF6102KZH	Q251	2SC1317											
C861, 862	ECEA50MR22R	Q252	2SC1317											
C863	ECQF6562KZH	Q253	2SC1317											
C865, 866	ECQS1121JZ	Q254	2SC1317											
C867, 868	ECQF6122KZH	Q255	2SC1317											
C901, 902	ECEA1HS100	Q256	2SC1317											
C903, 904	ECEA25N3R3	Q257	2SC1317											
C905	ECEA1ES4R7	Q258	2SC1317											
C907, 908	ECEA1ES4R7	Q259	2SC1317											
C909, 910	ECCD1H100KC	Q260	2SC1317											
C911, 912	ECEA1ES4R7	Q261	2SC1317											
C913, 914	ECEA1AS470	Q262	2SC1317											
C915	ECQM05473KZ	Q263	2SC1317											
C916, 917	ECSZ25EF2R2J	Q264	2SC1317											
C918, 919	ECKD1H682KB	Q265	2SC1317											
C1001, 1002	ECEA1HS2R2	Q266	2SC1317											
C1003	ECCD1H101KC	Q267	2SC1317											
C1004	ECKD1H102KB	Q268	2SC1317											
C1005	ECEA1HS2R2	Q269	2SC1317											
<b>COMBINATION PARTS</b>														
Z801	Δ QCR0011	Q551	2SA564											

Ref. No.	Part No.	Part Name & Description
<b>TRANSFORMERS</b>		
T1	Δ QLPD38ENX	AC Power Transformer
*For All European areas except United Kingdom.		
	Δ QLPN49ENX	"
*For United Kingdom and Australia.		
T310, 311		
T851	QLT2D26X	Headphones Transformer
T852	QLB0191	Oscillation Transformer
	QLB0190	RF Output Transformer
<b>COILS</b>		
L1, 2	QLQX3441K	Choke Coil
L201, 202, 203, 204, 205, 206, 207, 208		
	QLQX0331W	Peaking Coil
L209	QLQX2421Y	Choke Coil
*For Australia.		
L301, 302		
	QLM9Z3K	MPX Filter
L601, 602		
	QLQZ1014D	Choke Coil
L801	QLQZ1014D	"
L851, 852		
	QLQX0331W	Peaking Coil
<b>SWITCHES</b>		
S301	QSR6401	Rotary Switch
S302, 303		
	QSR4304	"
S401, 402, 403, 404, 405, 406, 407		
	QSW1111H	Push Switch
S551, 552, 553, 554		
	QSWX409A	"
S601, 602		
	QSM0067	Micro Switch
S603	QSW1111H	Push Switch
S801	QSW2214	"
S802	QSR1407	Rotary Switch
S901, 902		
	QSW1111H	Push Switch
S5001, 5002, 5003, 5004		
	QSW1111H	"
<b>FUSES</b>		
F802, 803	Δ XBAQ0013	Fuse (200mA)
*For All European areas.		
F804, 805		
	Δ XBAQ0004	Fuse (1 A)
*For All European areas.		
F806, 807, 808		
	Δ XBAQ0010	Fuse (1.6A)
*For All European areas.		
F809		
	Δ XBAQ0006	Fuse (315mA)
*For All European areas.		
<b>JACKS</b>		
J1	QEJ5003S	Jack Board Assembly
J2	QJA0249C	Headphones Jack
J3	QJA0444H	Microphone Jack
<b>PILOT LAMPS</b>		
PL401, 402, 403, 404		
	XAMQ34S50W	Pilot Lamp
PL551, 552, 553, 554		
	XAMQ34S200W	"
PL801	XAMQ41S500	Pilot Lamp

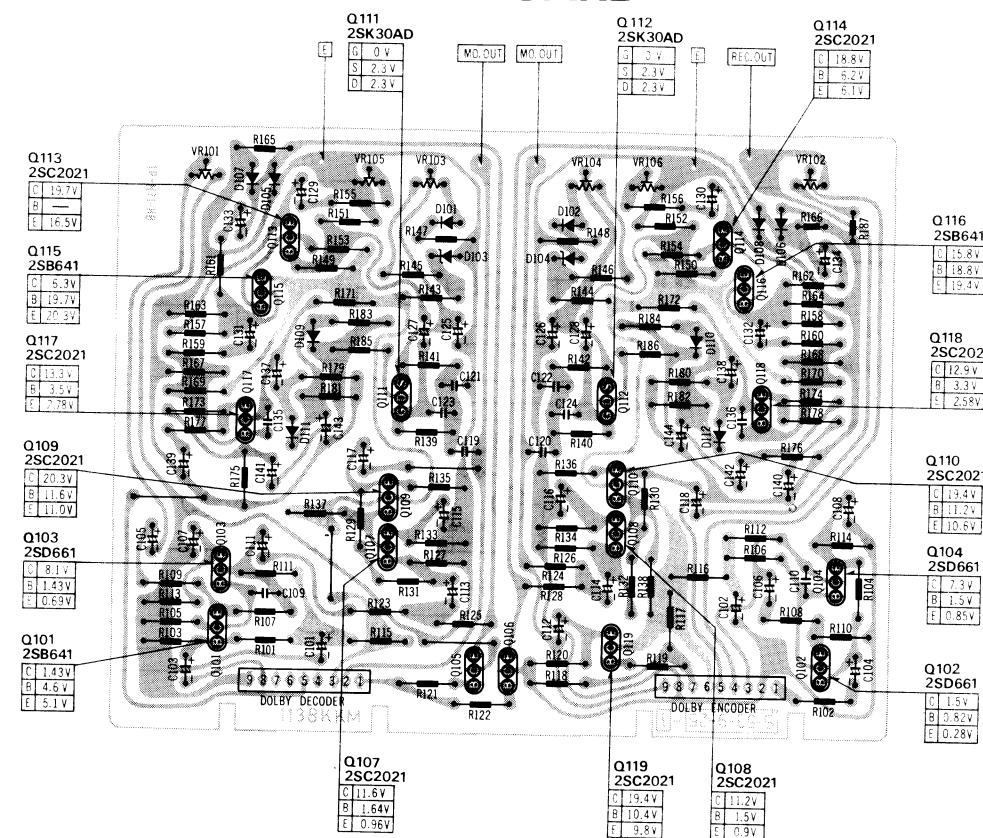
## BIAS OSCILLATION CIRCUIT BOARD



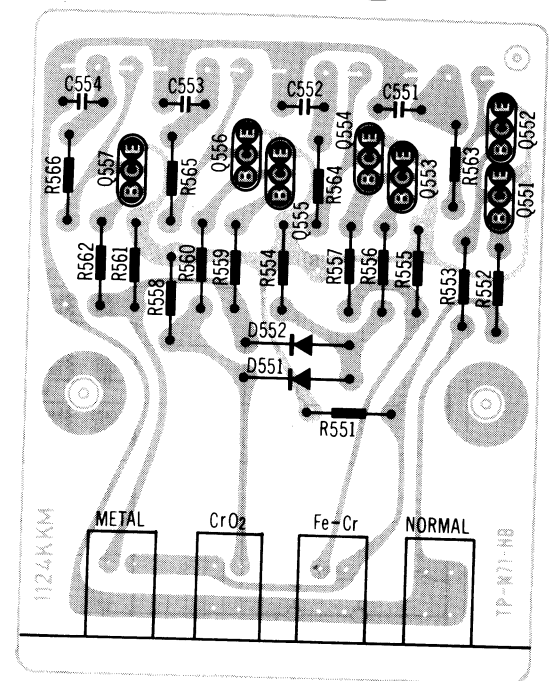
## PLAYBACK EQUALIZER/TEST OSCILLATOR/MIC AMP CIRCUIT BOARD



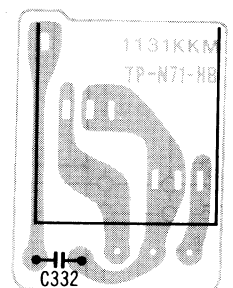
## DOLBY NR CIRCUIT BOARD



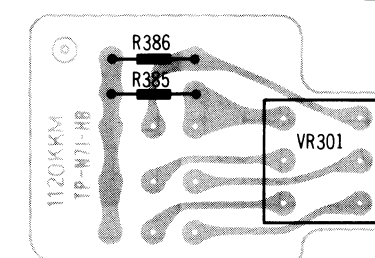
## TAPE SELECT CIRCUIT BOARD



## MIC JACK CIRCUIT BOARD



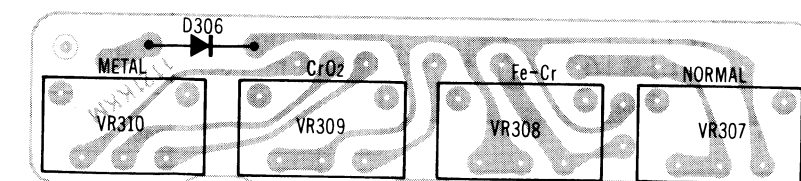
## INPUT LEVEL CIRCUIT BOARD



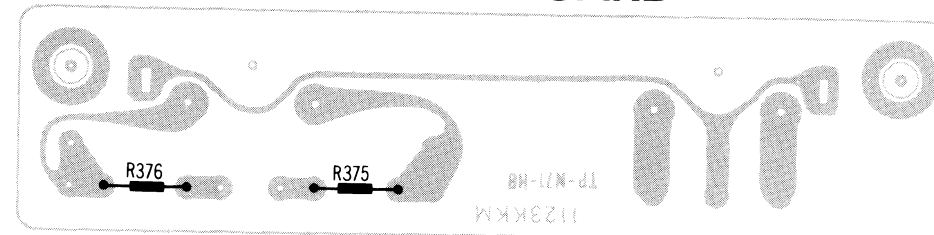
## HEADPHONES JACK CIRCUIT BOARD



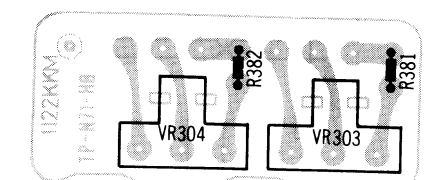
## BIAS ADJUSTMENT CIRCUIT BOARD



## MAIN JACK CIRCUIT BOARD



## RECORDING CALIBRATION CIRCUIT BOARD

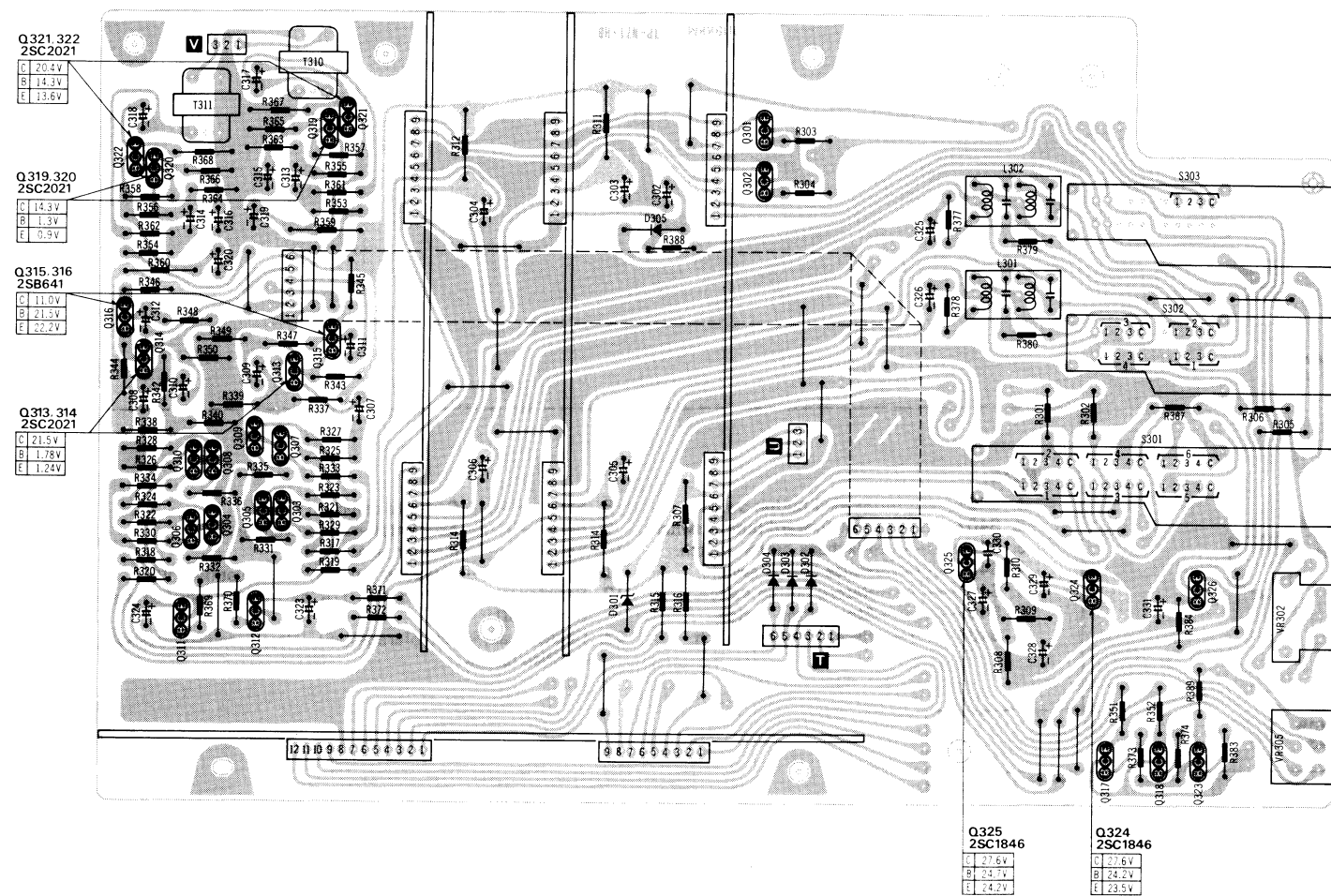


**NOTE:**  
The circuit shown in red on the conductor is +B (bias) circuit. Values indicated in   are DC voltage between the chassis and electrical parts.

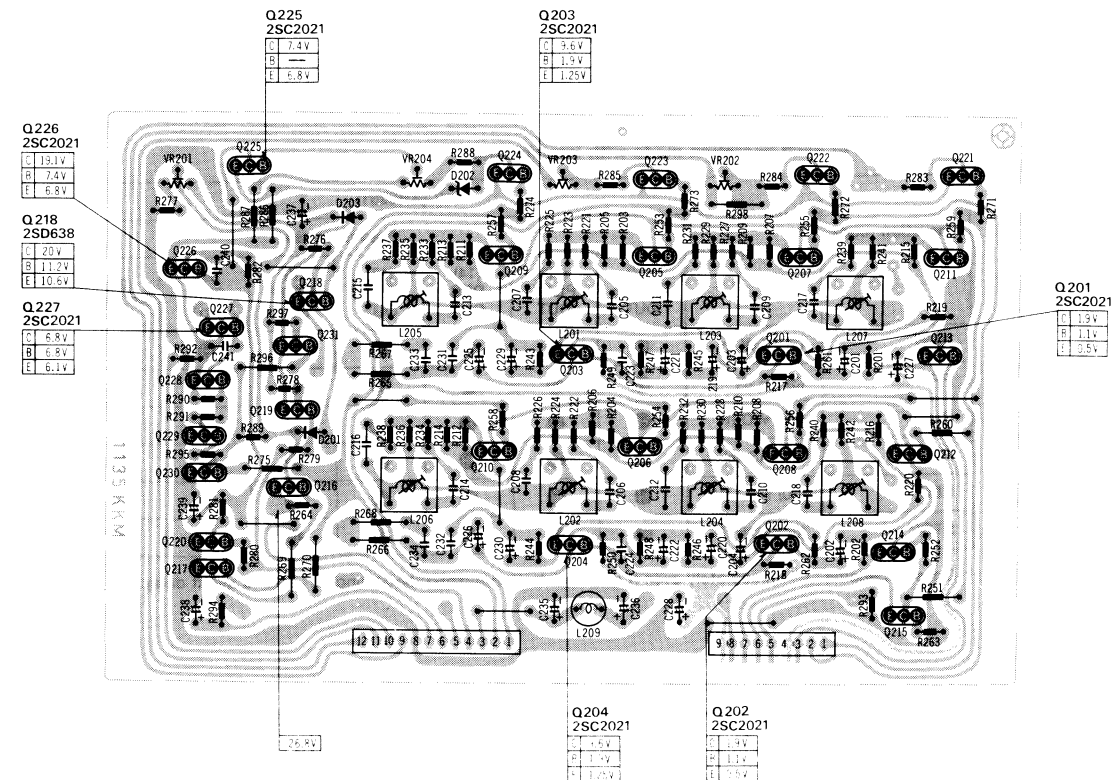


# CIRCUIT BOARD

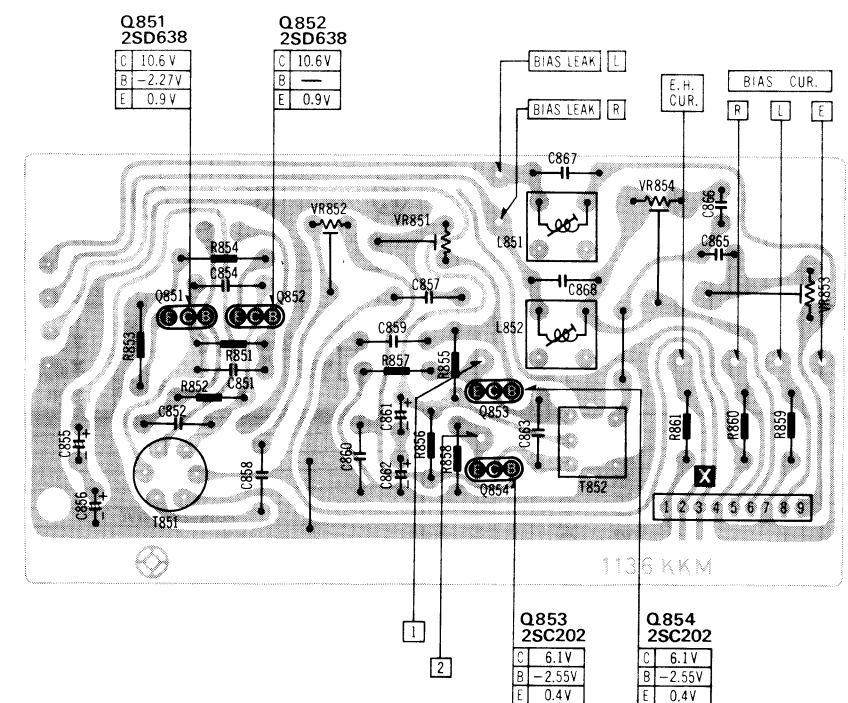
## MAIN AMP CIRCUIT BOARD



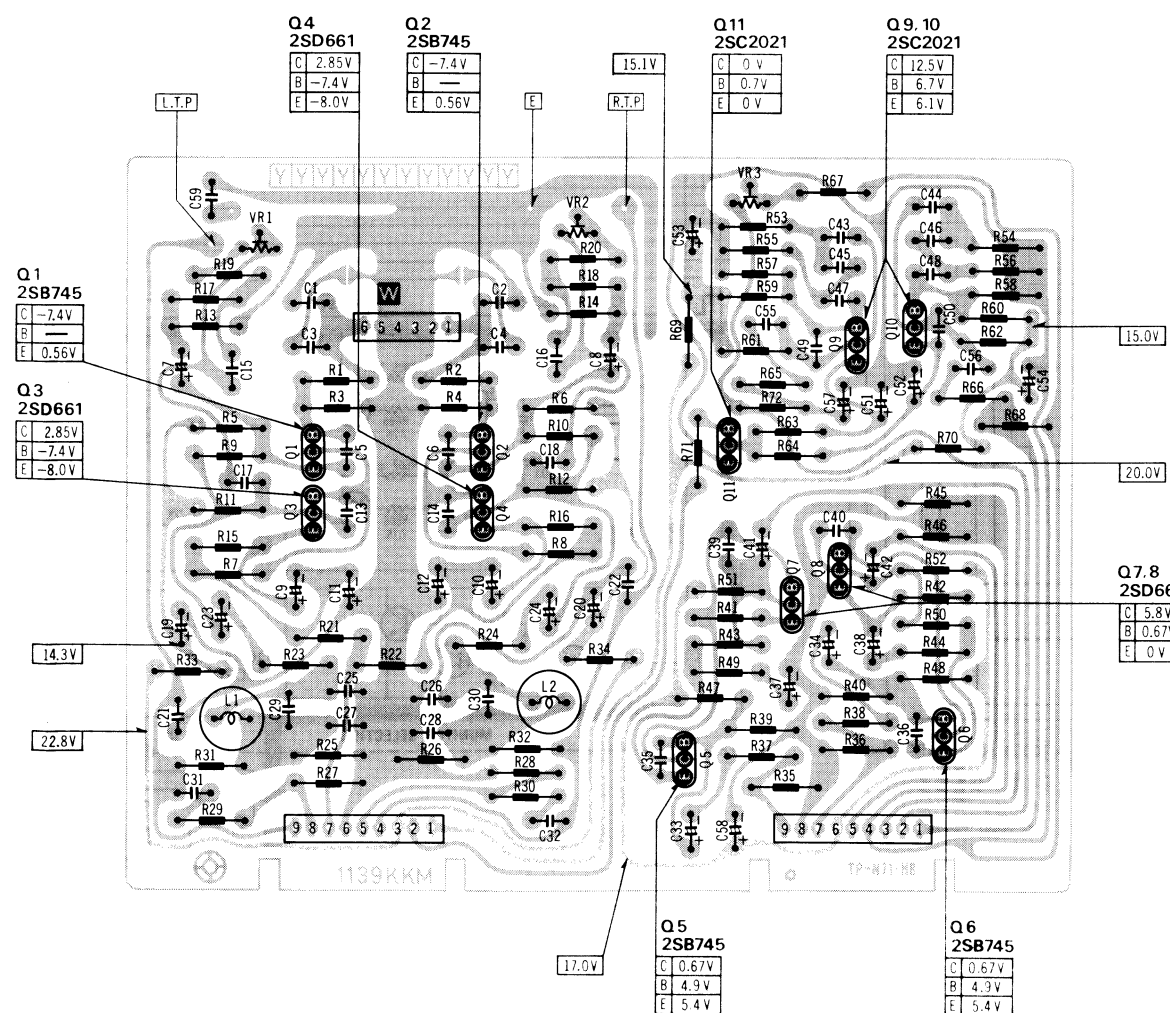
## RECORD AMP CIRCUIT BOARD



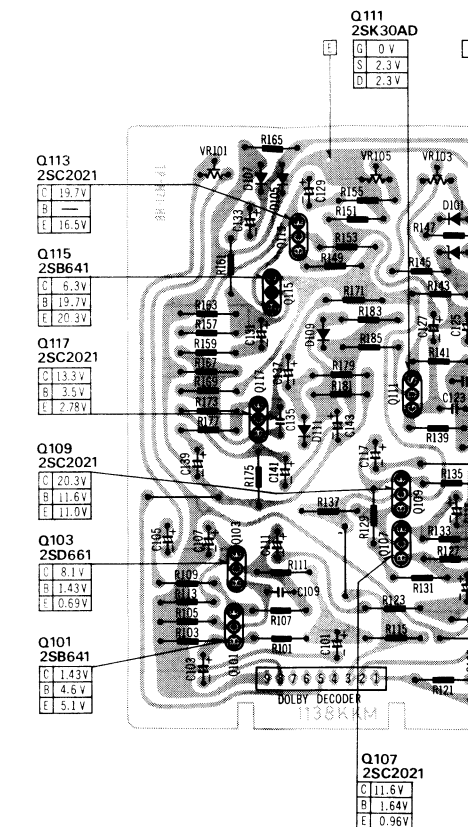
## BIAS OSCILLATION CIRCUIT BOARD



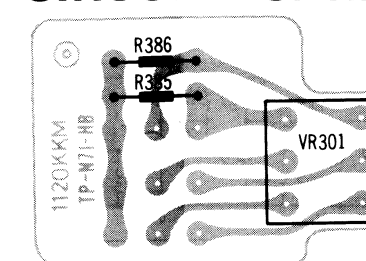
## PLAYBACK EQUALIZER/TEST OSCILLATOR/ MIC AMP CIRCUIT BOARD



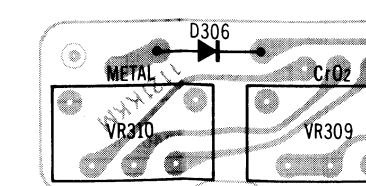
## DOLBY NR CIRCUIT



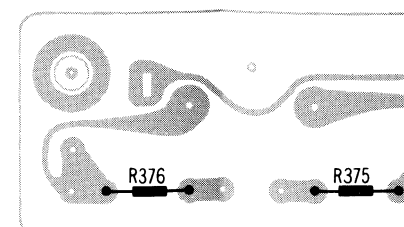
## INPUT LEVEL CIRCUIT BOARD

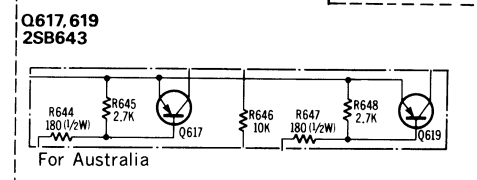
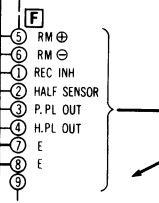
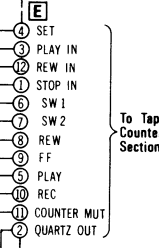
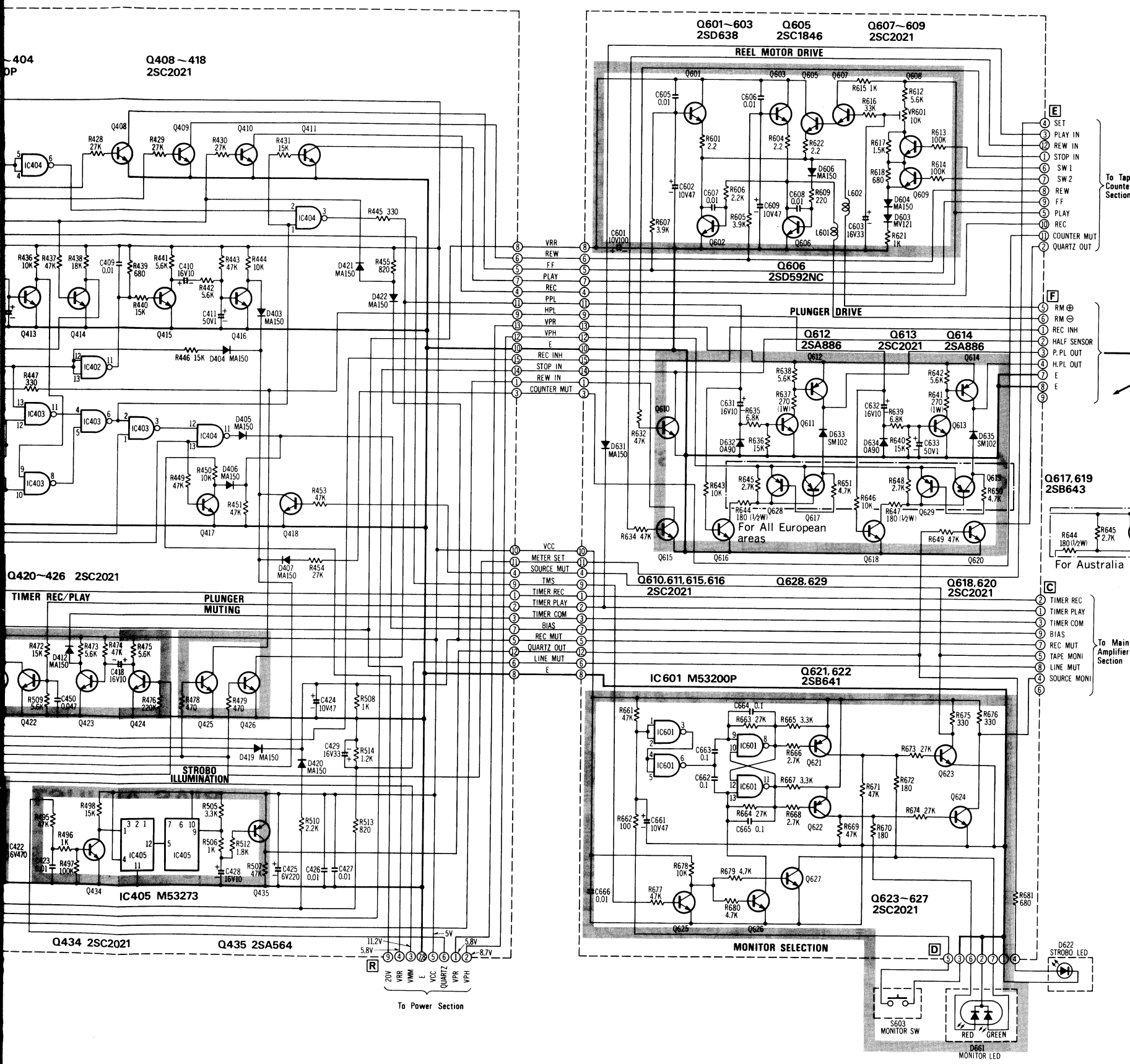


## BIAS ADJUSTMENT



## MAIN JACK CIRCUIT





NOTE:

- 1. S401.....Rewind button switch.
- 2. S402.....Fast forward button switch.
- 3. S403.....Playback button switch.
- 4. S404.....Pause button switch.
- 5. S405.....Record button switch.
- 6. S406.....Stop button switch.
- 7. S407.....Record muting switch.
- 8. S601.....Cassette detection switch.
- 9. S602.....Accidental erase prevention switch.
- 10. S603.....Monitor select switch.
- 11. VR601.....Playback tape tension adjustment VR.
- 12. Resistance are in ohms ( $\Omega$ ), 1/4 watt unless specified otherwise. K=1,000 $\Omega$ .
- 13. Capacity are in microfarads ( $\mu$ F) unless specified otherwise. P=Pico-farads.

Relationship of each operation mode with input/output

Operation mode	Input Terminal	IC (AN6251)							
		Output terminal							
		(12) PAUSE OUT	(13) PLAY OUT	(14) REC OUT	(17) D-PLAY OUT	(19) STOP OUT	(20) TMS OUT	(22) FF OUT	(23) REW OUT
REW	(2) REW IN	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕
FF	(3) FF IN	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕
PLAY	(8) FWD IN	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕
PAUSE	(9) PAS IN	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕
REC	(10) REC IN	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕
STOP	(6) STOP IN	⊕	⊕	⊕	⊕	⊕	⊕	⊕	⊕

\* Doesn't become "L" immediately even if playback button pushed: becoming "L" after a slight delay.

**Q601~603** 2SD638      **Q605** 2SC1846      **Q607~609** 2SC2021

**REEL MOTOR DRIVE**

**Q606** 2SD592NC

**PLUNGER DRIVE**

**Q612** 2SA886      **Q613** 2SC2021      **Q614** 2SA886

**For All European areas**

**For Australia**

**Q610,611,615,616** 2SC2021      **Q628,629**      **Q618,620** 2SC2021

**IC 601 M53200P**      **Q621,622** 2SB641

**MONITOR SELECTION**

**Q623-627** 2SC2021

**D622 STROBO LED**

**SE03 MONITOR SW**

**D601 MONITOR LED**

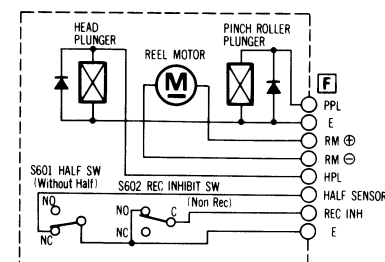
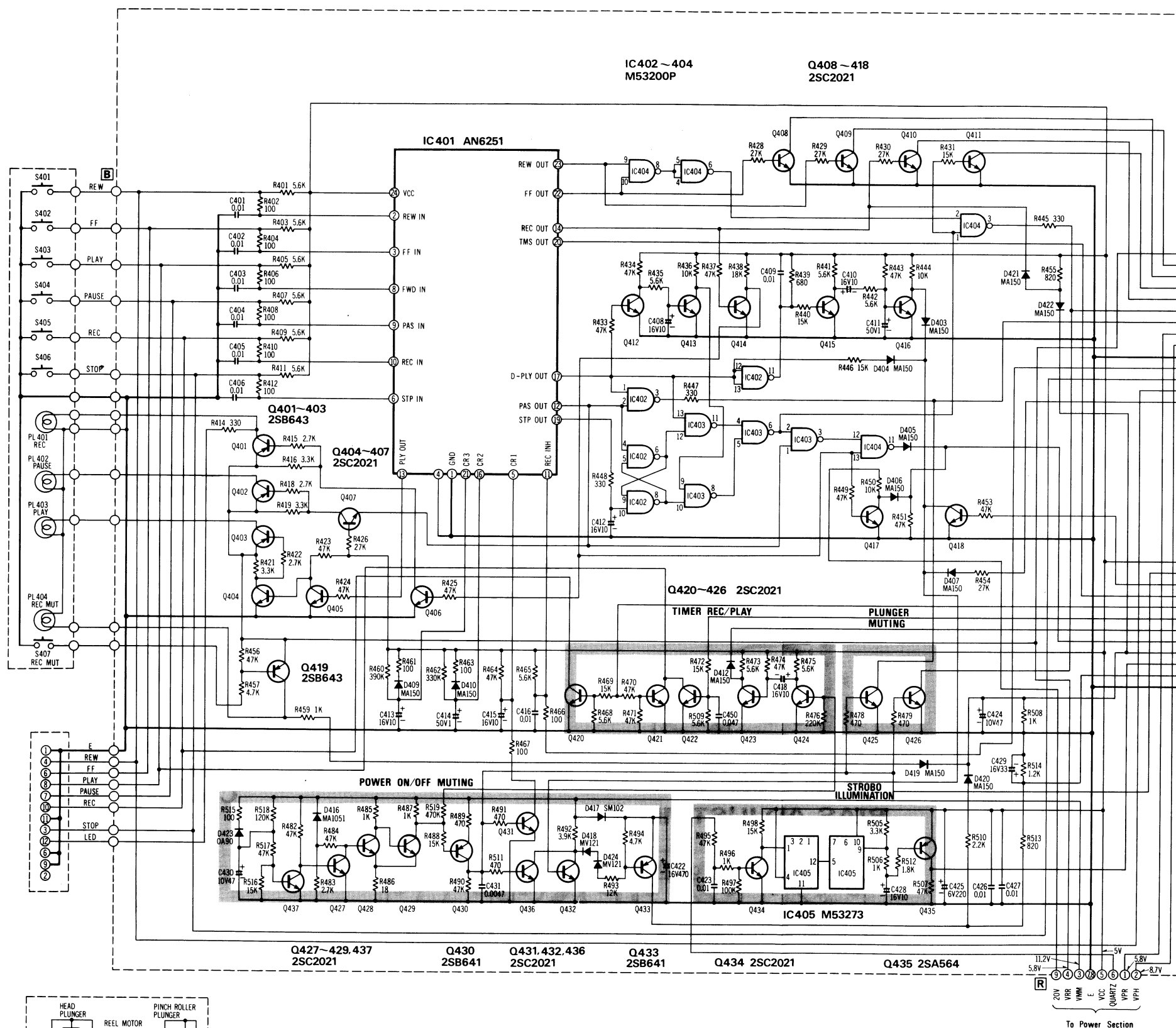
**To Tape Counter Section**

**To Main Amplifier Section**

(E)	SET
(1)	PLAY IN
(2)	REW IN
(3)	STOP IN
(4)	SW 1
(5)	SW 2
(6)	REW
(7)	FF
(8)	PLAY
(9)	REC
(10)	COUNTER MUT
(11)	QUARTZ OUT

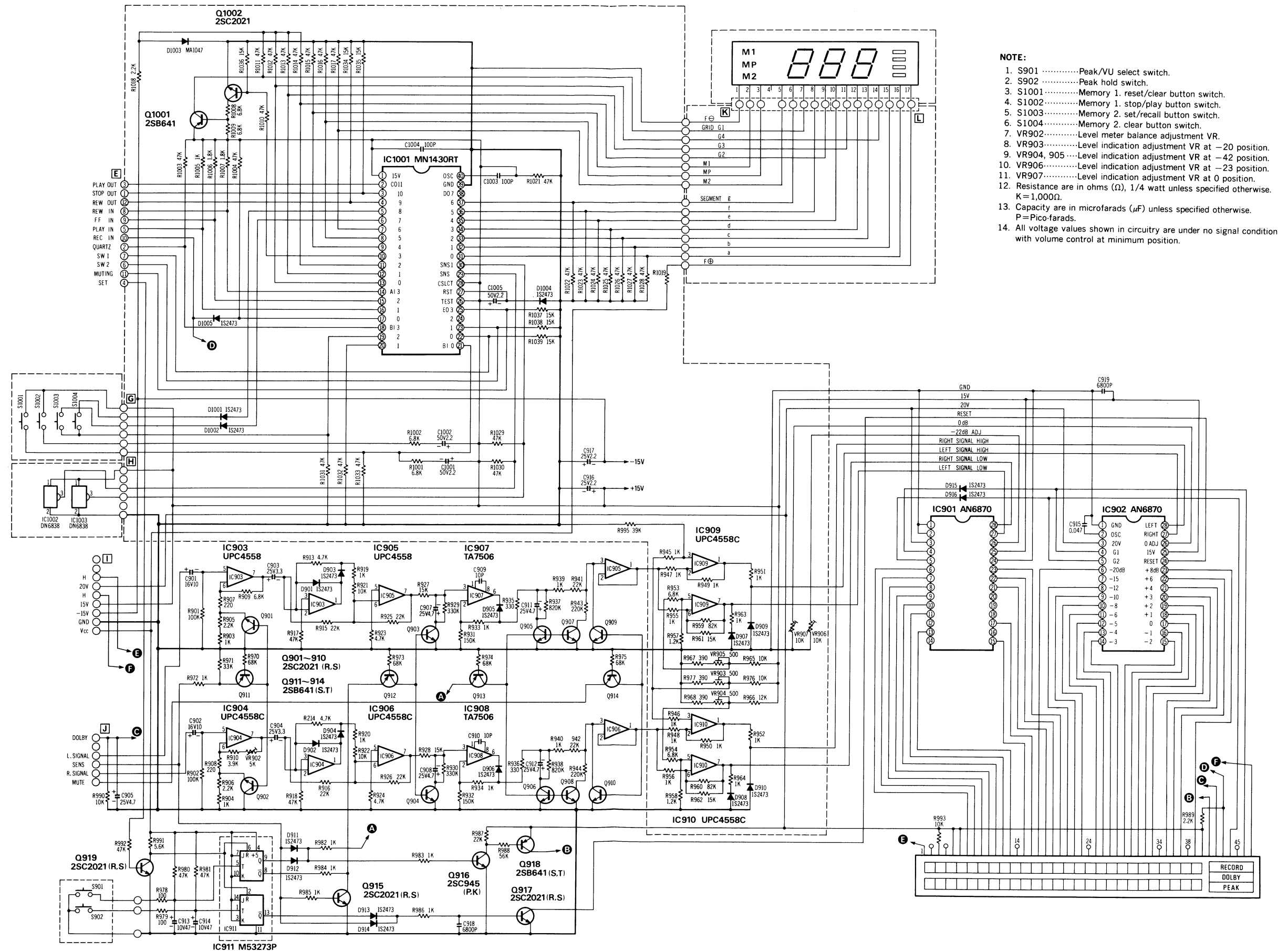
(F)	RM ⊕
(1)	RM ⊖
(2)	REC INH
(3)	HALF SENSOR
(4)	H.P.L. OUT
(5)	H.P.L. OUT
(6)	E
(7)	E

(C)	TIMER REC
(1)	TIMER PLAY
(2)	TIMER COM
(3)	BIAS
(4)	REC MUT
(5)	TAPE MONI
(6)	LINE MUT
(7)	SOURCE MONI



## SCHEMATIC DIAGRAM

### TAPE COUNTER AND LEVEL METER SECTION





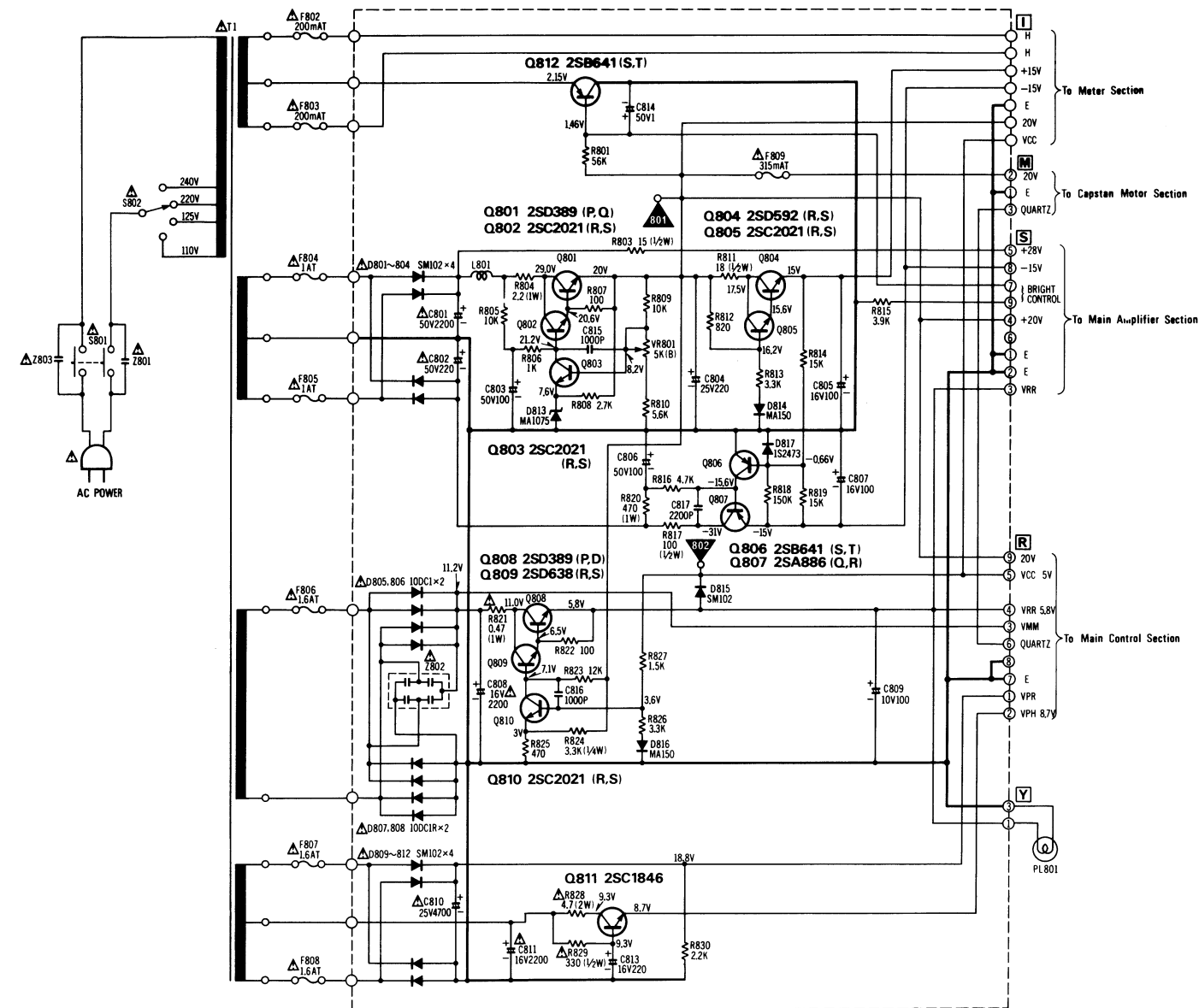
## MAIN CONTROL CIRCUIT BOARD



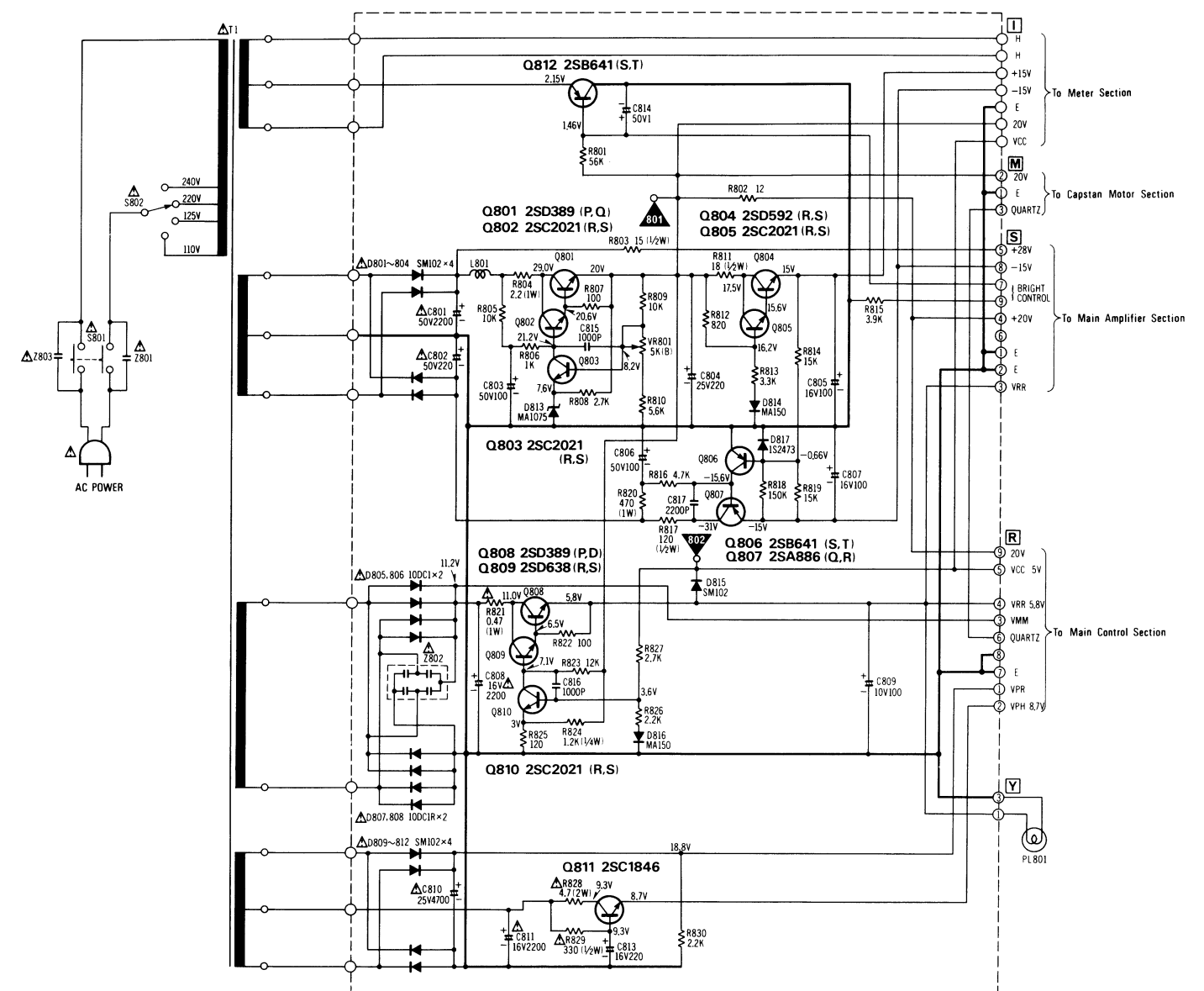


# SCHEMATIC DIAGRAM POWER SECTION

For All European areas.



For Australia

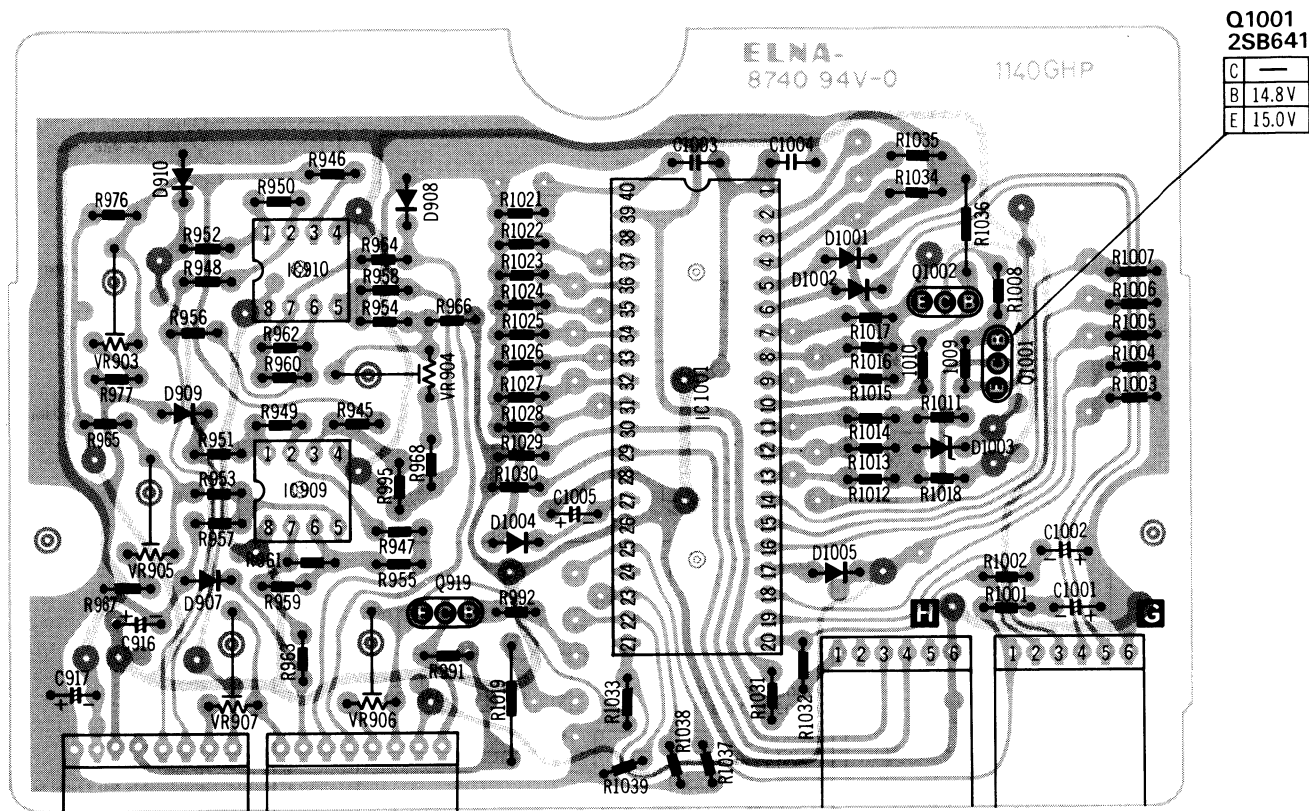


## NOTE:

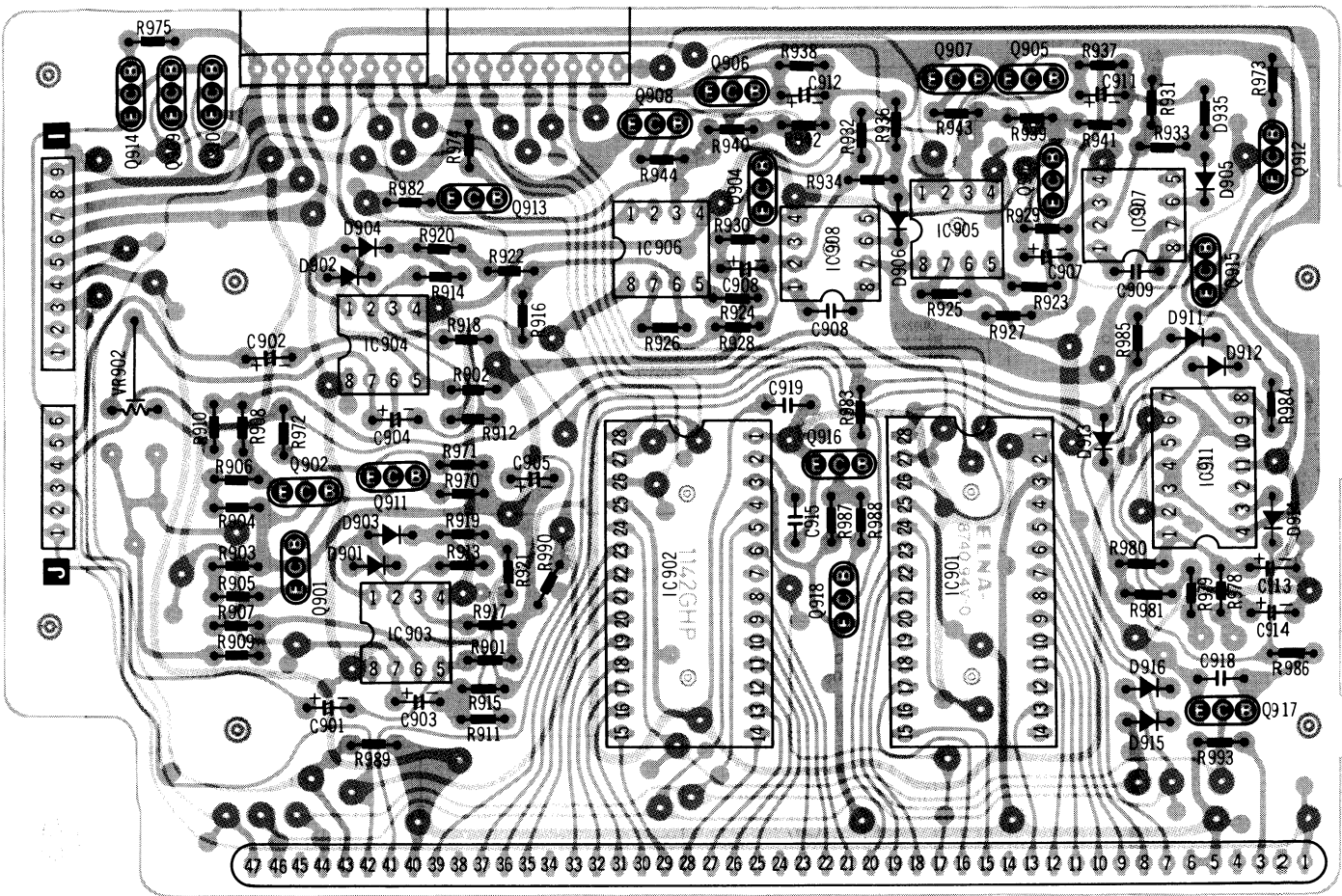
1. S801.....Power ON/OFF switch.
2. S802.....AC power voltage select switch.
3. VR801.....DC voltage (20V) adjustment VR.
4. Resistance are in ohms ( $\Omega$ ), 1/4 watt unless specified otherwise.  
K=1,000 $\Omega$ .
5. Capacity are in microfarads ( $\mu$ F) unless specified otherwise.  
P=Pico-farads.
6. All voltage values shown in circuitry are under no signal condition and record mode with volume control at minimum position.
7.  $\Delta$  indicates that only parts specified by the manufacturer be used for safety.

CIRCUIT BOARD

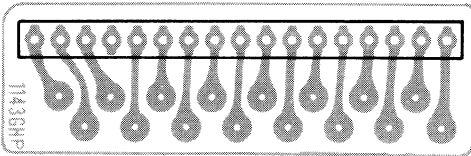
MICRO COMPUTER CIRCUIT BOARD



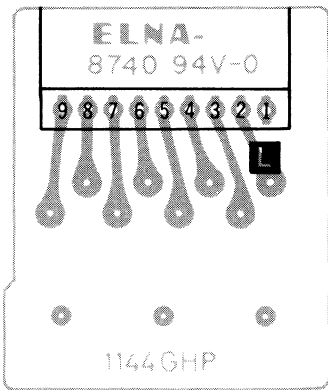
FLUORESCENT LEVEL METER CIRCUIT BOARD



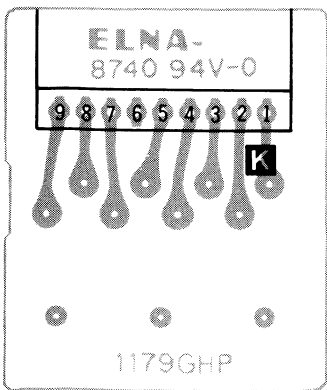
DIGITAL TAPE COUNTER CIRCUIT BOARD



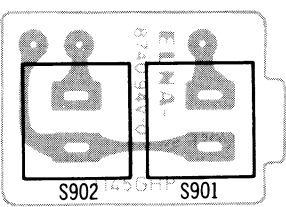
CONNECTOR CIRCUIT BOARD



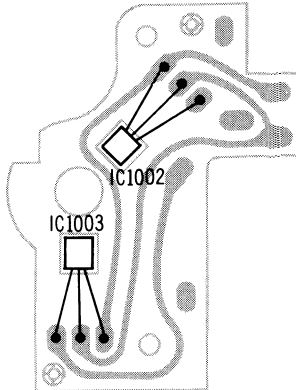
CONNECTOR CIRCUIT BOARD



METER FUNCTION CIRCUIT BOARD

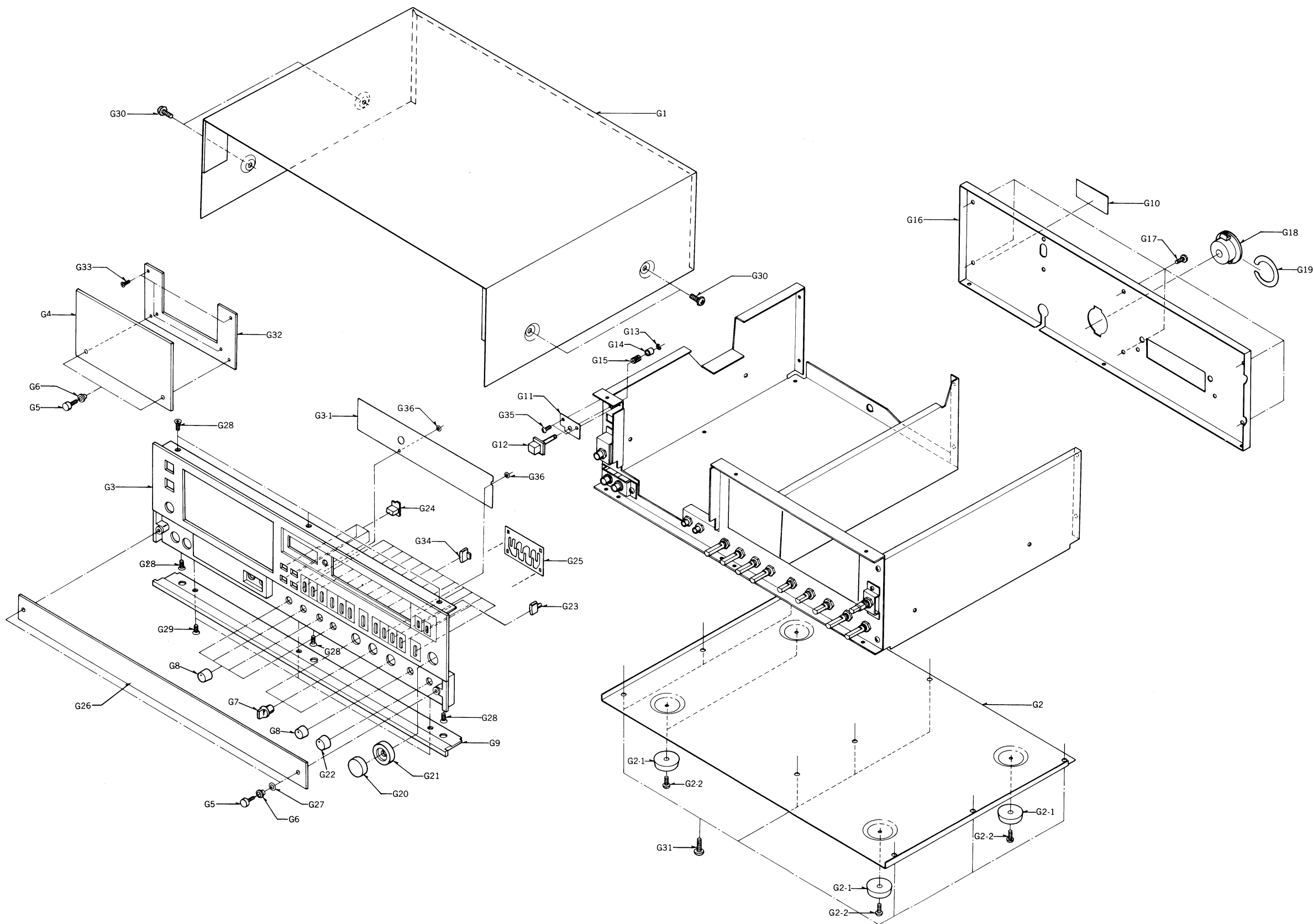


HALL IC CIRCUIT BOARD



NOTE:  
The circuit shown in red on the conductor is +B (bias) circuit.  
Values indicated in   are DC voltage between the chassis and electrical parts.

CABINET PARTS

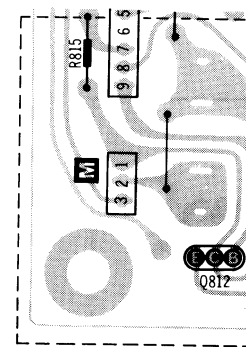


Ref. No.	Part No.	Part Name & Description
<b>CABINET PARTS</b>		
G1	QGC1130	Case Cover
G2	QYB0392	Button Cover Assembly
G2-1	QKA1076	Rubber Foot
G2-2	XSN4+6S	Screw 4x6
G3	QYP0839	Front Panel Assembly
G3-1	QGL1132	Meter Cover
G4	QKG2804	Cassette Lid
G5	QHQ1272	Cassette Lid Holding Screw
G6	QBG1551	Rubber Cushion
G7	QGT1438	Volume Knob-D
G8	QGT1439	Volume Knob-E
G9	QKG2934	Sub-Plate
G10	QGS2689	Main Name Plate
*For All European areas except United Kingdom.		
*For United Kingdom and Australia.		
G11	QXH0301	Eject Plate
G12	QXS1104	Eject Button
G13	XUC25FT	Stop Ring
G14	QDP1387	Roller
G15	QBC1177	Eject Spring
G16	QMK1816	Back Cover
G17	XTN3+8B	Screw 3x8
G18	QJS0803X	Remote Control Socket
G19	QMA3445	Socket Angle
G20	QYT0507	Volume Knob-A
G21	QYT0508	Volume Knob-B
G22	QYT0509	Volume Knob-C
G23	QGO1531	Push Button-A
G24	QGO1532	Push Button-B
G25	QBP1836	Plate Spring
G26	QKF6013H	Lower Controls Cover
G27	QBW2046	Snap Washer
G28	XSS3+6S	Screw 3x6
G29	XSS3+8BVS	Screw 3x8
G30	XSN4+8S	Screw 4x8
G31	XTN4+8B	Tapping Screw 4x8
G32	QKG2944	Cassette Lid Holding Plate
G33	XVE26A4FZ	Screw
G34	QGO1553	Push Button-C
G35	XTN3+6B	Tapping Screw 3x6
G36	QBW2007	Snap Washer
<b>ACCESSORIES</b>		
A1	RP023A	Connection Cord
A2	QFTC305011TZ	Demonstration Tape
A3	QQT2629	Instruction Book
*For All European areas except United Kingdom.		
*For United Kingdom and Australia.		
<b>PACKINGS</b>		
P1	QPN3882	Inside Carton
P2	QPA0476	Cushion-A (LEFT)
P3	QPA0477	Cushion-B (RIGHT)
P4	XZB50X65A04	Poly Bag

# CIRCUIT BOARD POWER SECTION SUB-POWER CIRCUIT BOARD

Q801	C 29.0V
2SD389	B 20.6V
	E 20.0V

Q808	C 11.0V
2SD389	B 6.5V
	E 5.8V



For Australia

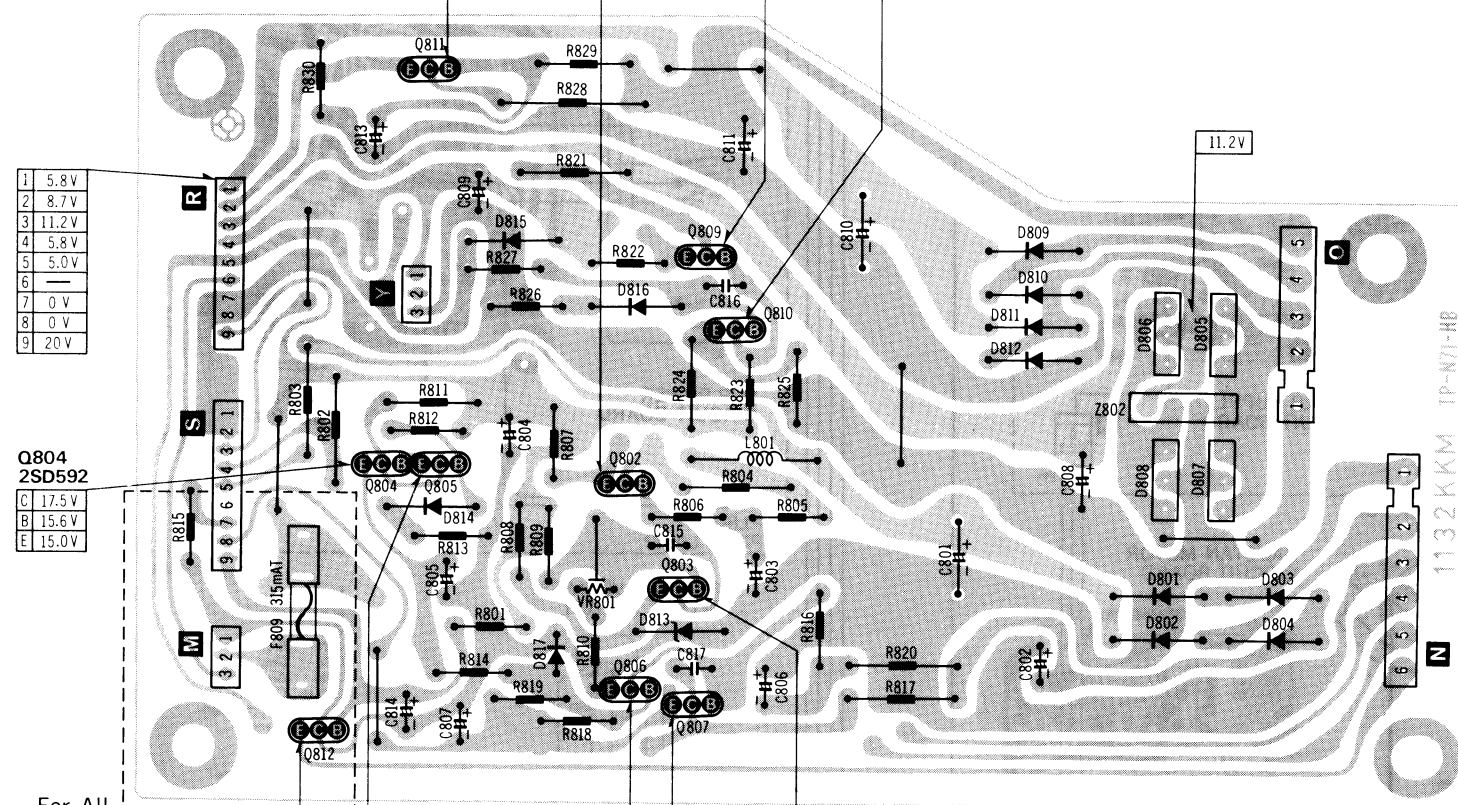
## POWER SUPPLY CIRCUIT BOARD

Q811	C 9.3V
2SC1846	B 9.3V
	E 8.7V

Q802	C 29.0V
2SC2021	B 21.2V
	E 20.6V

Q809	C 11.0V
2SD638	B 7.1V
	E 6.5V

Q810	C 7.1V
2SC1684	B 3.6V
	E 3.0V



1	5.8V
2	8.7V
3	11.2V
4	5.8V
5	5.0V
6	
7	0V
8	0V
9	20V

Q804	C 17.5V
2SD592	B 15.6V
	E 15.0V

For All European areas

Q812	C 0V
2SB641	B 1.46V
	E 2.15V

Q805	C 17.5V
2SC2021	B 16.2V
	E 15.6V

Q806	C -15.6V
2SB641	B -0.66V
	E 0V

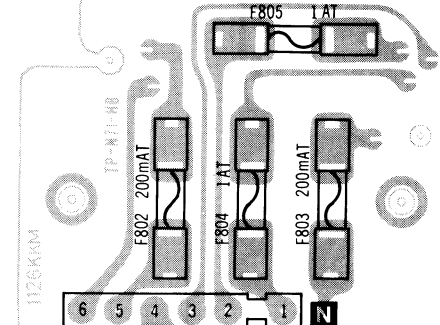
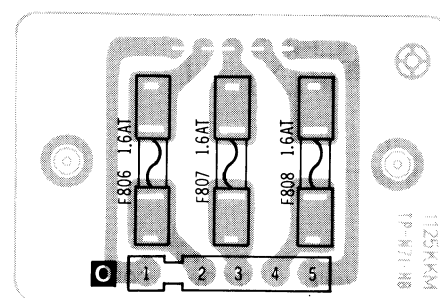
Q807	C -31.0V
2SA886	B -15.6V
	E -15.0V

Q803	C 21.2V
2SC2021	B 8.2V
	E 7.6V

### NOTE:

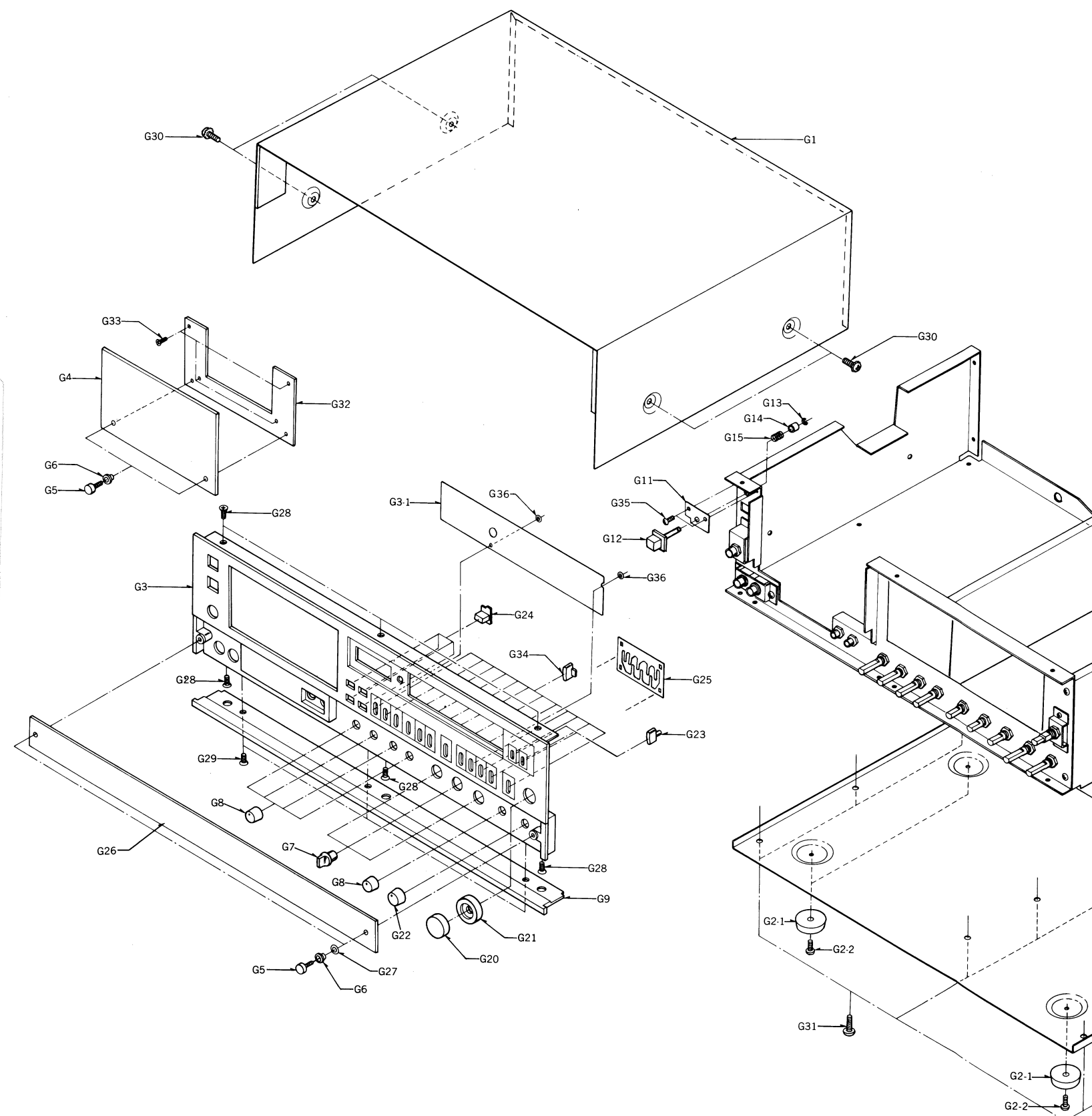
The circuit shown in red on the conductor is +B (bias) circuit. Values indicated in   are DC voltage between the chassis and electrical parts.

## FUSE CIRCUIT BOARD FUSE CIRCUIT BOARD



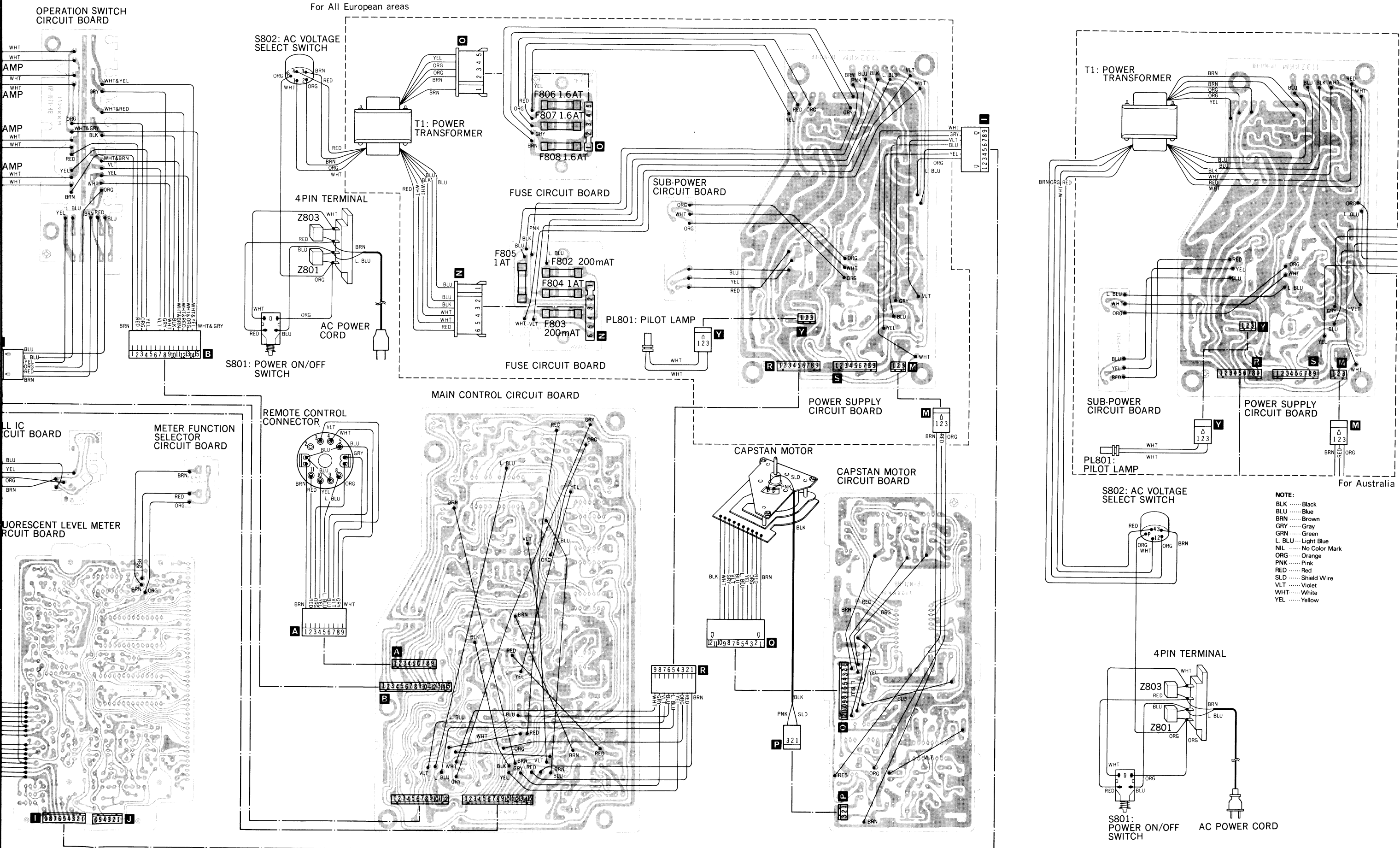
For All European areas.

## CABINET PARTS





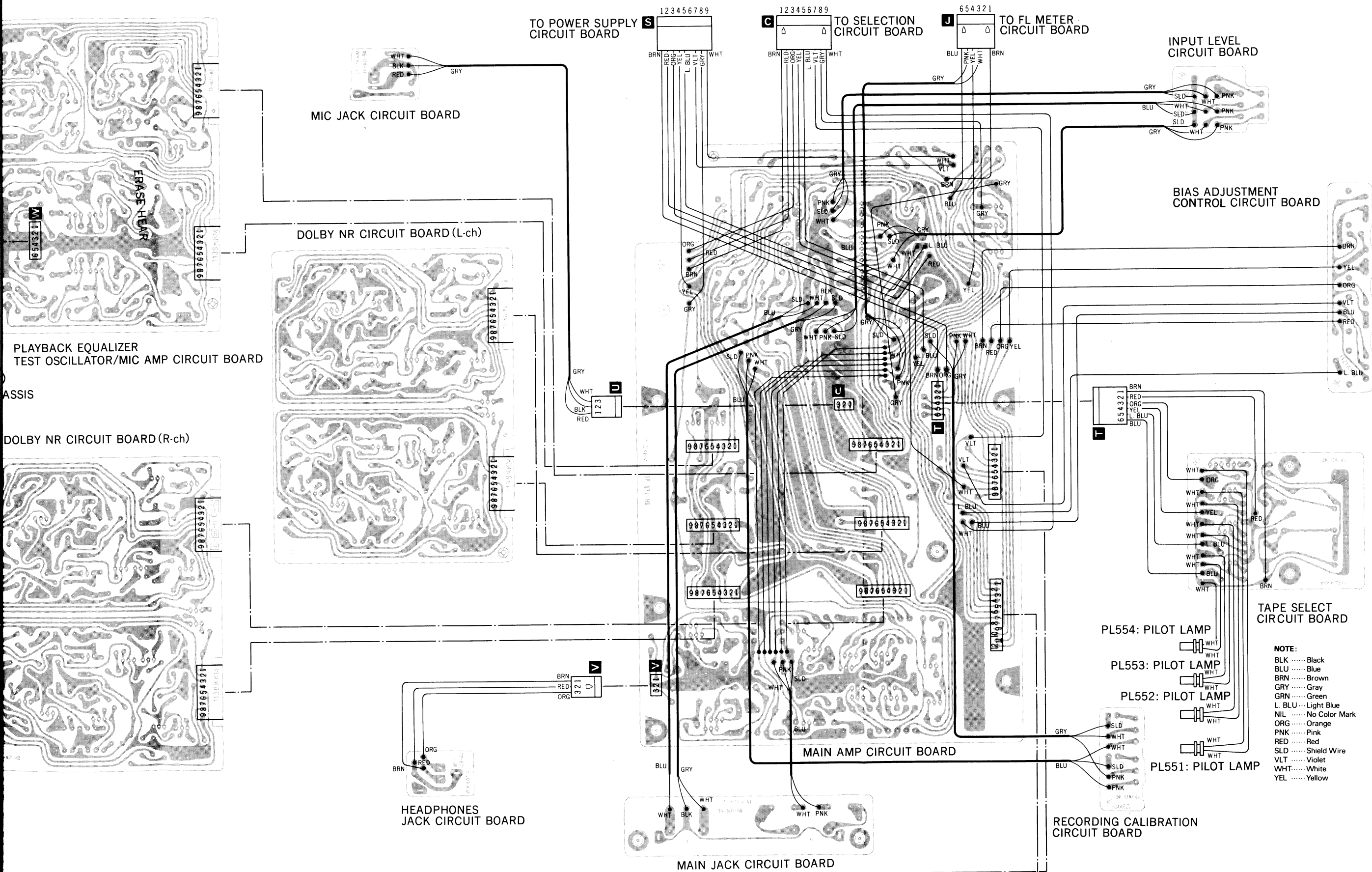
# RS-M95



## RS-M95



AM

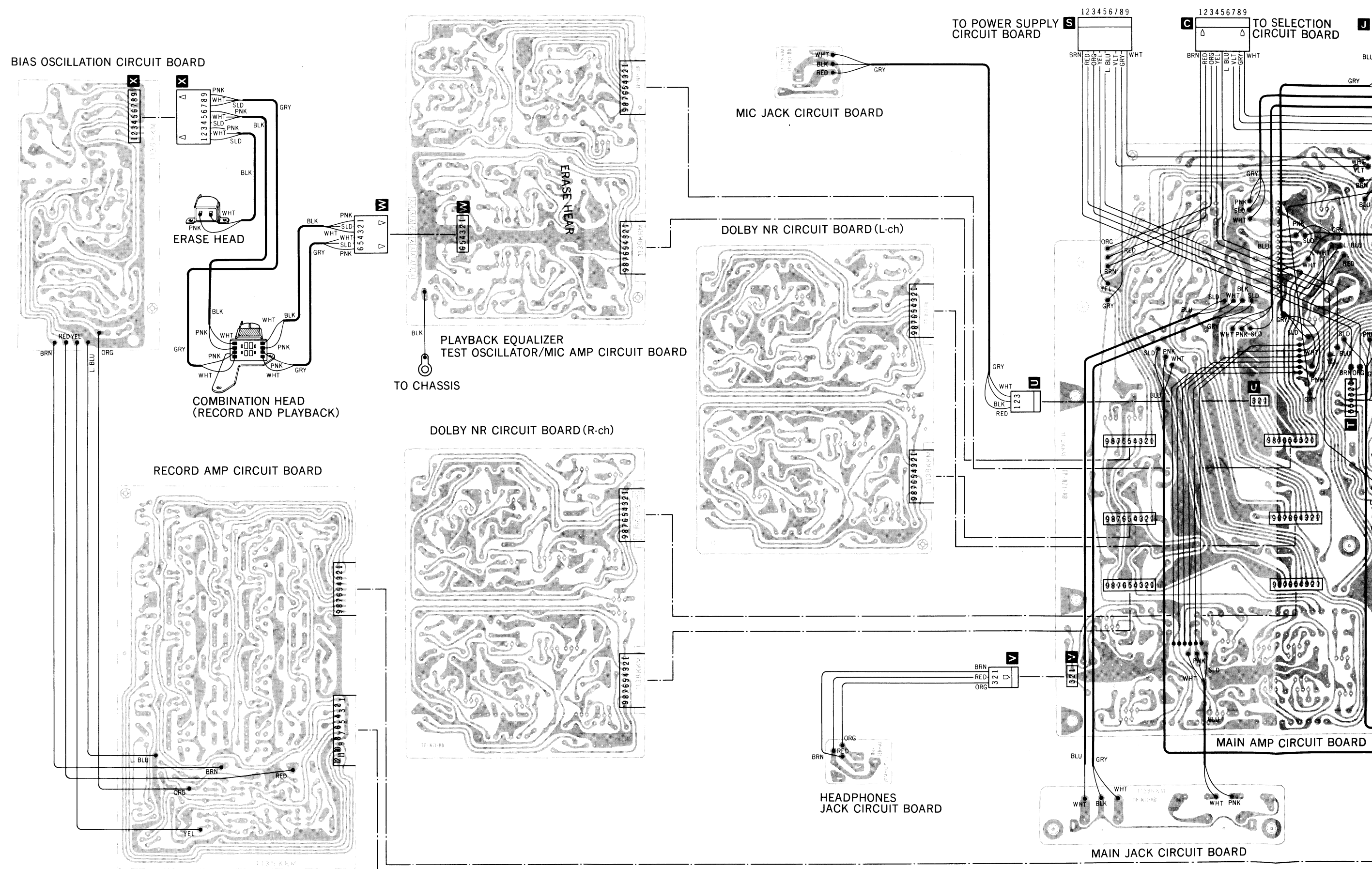


**NOTE:**  
 BLK .....Black  
 BLU .....Blue  
 BRN .....Brown  
 GRY .....Gray  
 GRN .....Green  
 L. BLU...Light Blue  
 NIL .....No Color Mark  
 ORG .....Orange  
 PNK .....Pink  
 RED .....Red  
 SLD .....Shield Wire  
 VLT .....Violet  
 WHT.....White  
 YEL .....Yellow

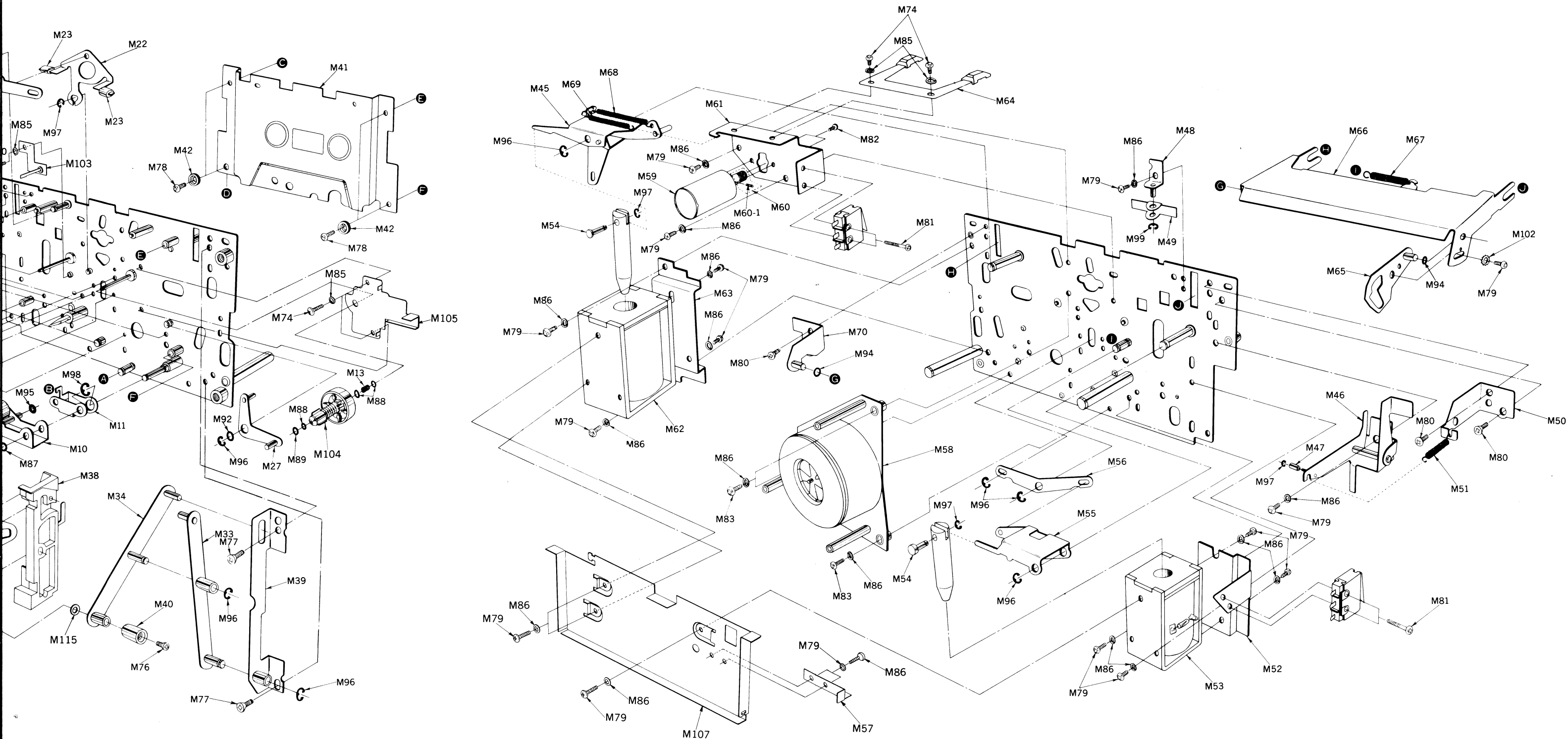


## WIRING CONNECTION DIAGRAM

### Amp Section





**RS-M95**

Part Name & Description	Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description	Ref. No.	Part No.	Part Name & Description
Idler Lever Assembly	M37	QXA0705	Holder Angle-R Assembly	M53	QME0141	Plunger	M68	QBT1405	Lever Spring	M88	QBW2012	"	M104	QXD0101	Takeup Reel Table Assembly
Idler Felt	M38	QMH2028	Cassette Holder-R	M54	QMN2095	Plunger Pin	M69	QBT1713	Record Spring	M105	QTD1271	"	M105	QTD1271	Hall IC Holding Plate
Idler Assembly	M39	QXA0704	Angle-R Assembly	M55	QXL1171	Plunger Lever-L Assembly	M70	QXA0702	Connector Angle-R Assembly	M89	QBW2008	"	M106	QML1276	Erase Head Lever
Idler Spring	M40	QKJ0245	Spacer-A	M56	QML3276	Plunger Lever	M74	XS26+4	Screw $\pm 2.6 \times 4$	M90	QBW2015	"	M107	QMA3642	Circuit Board Angle
Brake Lever Assembly	M41	QKH0286	Mechanism Cover				M75	XS26+4BVS	"	M91	QBW2017	"	M108	QTD1163	Rug Plate
	*For All European areas except United Kingdom.			M57	QMA3681	Reinforcement Angle	M76	XSS2+4	Screw $\pm 2 \times 4$	M92	QBW2018	"	M109	QBC1235	Head Spring
Brake	M42	QKH0277B	"	M58	QXK2010	Capstan Motor Assembly	M77	XSS3+4S	Screw $\pm 3 \times 4$						
Stopper Rubber	*For United Kingdom and Australia.			M59	MKCN22AE5	Reel Motor	M78	QH1185	Step Screw	M94	QBW2019	Poly Washer	M110	QBC1221	"
Detection Angle Assembly	M43	QMP1213	Spacer-B	M60	QXP0574	Motor Pulley Assembly				M95	QBK7123	Fiber Washer	M111	QBT1619	Idler Spring
Detection Lever Spring	M43	QBP1135	Spring Washer	M60-1	XXE26D3FZ	Set Screw	M79	XS26+4S	Screw $\pm 3 \times 5$	M96	XUC3FT	Stop Ring 3φ	M112	XSS2+10	Screw $\pm 2 \times 10$
Detection Lever	M45	QXL1165	Lever-B Assembly	M61	QMA3313	Motor Angle	M80	XSS3+6S	Screw $\pm 3 \times 6$	M97	XUC25FT	Stop Ring 2.5φ	M113	XS2+4	Screw $\pm 2 \times 4$
Lever-A Assembly	M46	QXL1188	Eject Lever Assembly	M62	QXE0243	Plunger	M81	QH1182	Step Screw	M98	XUC5FT	Stop Ring 5φ	M114	XNF26AF	Nut
Angle-L Assembly				M63	QMA3312	Plunger Angle-R	M82	XS2+3	Screw $\pm 2 \times 3$	M99	XUC2FT	Stop Ring 2φ	M115	QBK7005	Washer
Link Lever-A Assembly	M47	QDP1758	Roller	M64	QXA0713	Cassette Holding Cushion	M83	XS26+4S	Screw $\pm 3 \times 8$	M100	XS26+6	Screw $\pm 2.6 \times 6$			
Link Lever-B Assembly	M48	QXA0713	Angle Assembly	M65	QXL1173	Lock Lever Assembly	M84	XWA2	Spring Washer 2φ	M101	XWG26	Flat Washer			
Holder Angle-L Assembly	M49	QML3284	Release Lever				M85	XWA26	Spring Washer 2.6φ	M102	XWC3	Lock Washer			
	M50	QMA3314	Connector Angle				M86	XWA3	Spring Washer 3φ	M103	QXH0308	Back Tension Plate			
	M51	QBT1753	Playback Lever Spring	M66	QML3282	Connector Lever									
Cassette Holder-L	M52	QMA3311	Plunger Angle-L	M67	QBT1553	Holder Spring-R	M87	QBW2016	Poly Washer						

